



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

0.2  
5-11-05

REPLY TO THE ATTENTION OF

May 11, 2005

Granite City Hall  
City Clerk's Office  
2000 Edison Avenue  
Granite City, IL 62040  
Phone: (618) 452-6200

R.E : Final copy of the 5 year Review for the NL Industries/Taracorp Superfund Site in Granite City, Illinois.

The US Environmental Protection Agency is pleased to submit a final copy of the 5 year Review for the NL Industries/Taracorp Superfund Site in Granite City, Illinois. As you know the Clerk's Office of Granite City has been the official information repository for public documents for the the NL Industries/Taracorp Superfund Site .

Please ad the enclosed document to the rest of the NL Industries/Taracorp Superfund Site documents located in your office for public review. Should you have any questions please contact me at (312) 886-7935 or email me at [Munoz.joe@epa.gov](mailto:Munoz.joe@epa.gov)

Sincerely,

Joe Munoz

Community Involvement Coordinator  
Office of Public Affairs  
US EPA  
77 W. Jackson Blvd (P-19J)  
Chicago, IL 60604

EPA Region 6 Records Ctr.



258756

# **FIVE-YEAR REVIEW REPORT**

## **Second Five-Year Review Report**

**for**

**NL Industries/Taracorp Site**

**Granite City**

**Madison County, Illinois**

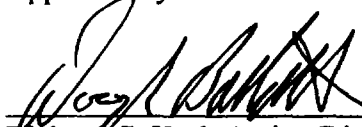
**March 2004**

**PREPARED BY:**

**U.S. EPA REGION 5  
Chicago, Illinois**

Approved by:

Date:

*for*   
Richard C. Karl, Acting Director  
Superfund Division

3/30/04

# Five-Year Review Report

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**List of Acronyms  
(In Order of Appearance)**

<b><u>NAME OR TERM</u></b>	<b><u>ACRONYM</u></b>
<b>United States</b>	<b>U.S.</b>
<b>Environmental Protection Agency</b>	<b>EPA</b>
<b>Supplemental Environmental Project</b>	<b>SEP</b>
<b>Comprehensive Environmental Response, Compensation and Liability Act (Superfund)</b>	<b>CERCLA</b>
<b>National Contingency Plan</b>	<b>NCP</b>
<b>Code of Federal Regulations</b>	<b>CFR</b>
<b>Record of Decision</b>	<b>ROD</b>
<b>parts per million</b>	<b>ppm</b>
<b>Decision Document/Explanation of Significant Differences</b>	<b>DD/ESD</b>
<b>Potentially Responsible Parties</b>	<b>PRPs</b>
<b>Unilateral Administrative Order</b>	<b>UAO</b>
<b>Remedial Design/Remedial Action</b>	<b>RD/RA</b>
<b>Consent Decree</b>	<b>CD</b>
<b>National Priorities List</b>	<b>NPL</b>
<b>Operation and Maintenance</b>	<b>O&amp;M</b>

## Executive Summary

This report documents the Second Five-Year Review for the NL Industries/Taracorp Site in Granite City, Illinois (the Site). In 2003, ENTACT, a consultant for the Generators at the Site, collected soil samples and inspected the cap over the slag pile at the Site in accordance with the approved Operation and Maintenance Plan for the Site. On September 5, 2003, ENTACT submitted the "Five Year Review Final Report" for the Site to the United States (U.S.) Environmental Protection Agency (EPA). The EPA approved this report on October 2, 2003. This report utilizes the data in the ENTACT Report and provides an analysis of the protectiveness of the remedy implemented at the Site. The findings indicate that the NL Industries/Taracorp Site remedy continues to be protective of human health and the environment. The next Five-Year Report is due in March 2009.

## Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): NL Industries/Taracorp		
EPA ID (from WasteLAN): ILD096731468		
Region: 5	State: IL	City/County: Granite City/Madison
SITE STATUS		
NPL status: <input checked="" type="checkbox"/> Final <input type="checkbox"/> Deleted <input type="checkbox"/> Other (specify) _____		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Complete		
Multiple OUs?* <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion date: PCOR 09/26/00	
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
REVIEW STATUS		
Lead agency: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency _____		
Author name: Brad Bradley		
Author title: Remedial Project Manager	Author affiliation: U.S. EPA Region 5	
Review period: 10/2002 to 03/31/2004		
Date(s) of site inspection: 12/11/2002, 5/15/03, and 3/22/04		
Type of review: <div style="display: flex; justify-content: space-between;"><div><input checked="" type="checkbox"/> Post-SARA <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> Regional Discretion</div><div><input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL State/Tribe-lead</div><div><input type="checkbox"/> NPL-Removal only</div></div>		

<b>Review number:</b> <input type="checkbox"/> 1 (first) <input checked="" type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify) _____
<b>Triggering action:</b> <input type="checkbox"/> Actual RA Onsite Construction at OU # _____ <input type="checkbox"/> Actual RA Start at OU# _____ <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify) _____
<b>Triggering action date (from WasteLAN):</b> 03/31/1999
<b>Due date (five years after triggering action date):</b> 03/31/2004

\* ["OU" refers to operable unit.]

#### Issues:

There are no current contamination issues related to the Site; however, the deed restrictions for the Taracorp pile required by the Record of Decision have not yet been implemented. During an inspection on March 22, 2004, EPA noted seven areas where cap erosion had occurred. Also, lead-based paint continues to be an issue at some homes within the Site area. The Consent Decree between EPA and the Generator-Defendants for the Site provides \$2,000,000 for a Supplemental Environmental Project (SEP) for assessment and abatement of lead-based paint within the Site area, and this project will get underway in 2004. When sampled by ENTACT as part of the five-year review monitoring, several of the residences that were cleaned up under the Site remedy had recontamination with lead in the drip zone area around the house. These residences are to be included in with the homes to be addressed under the paint SEP. EPA will monitor this situation to continue to provide a multi-media cleanup to the residents in the Site area.

#### Recommendations and Follow-up Actions:

There is one follow-up action related to the operation and maintenance (O&M) for the cap on the Taracorp pile. Erosion of the cap soil was observed in seven separate locations during an inspection on March 22, 2004. Repair of the cap is part of routine O&M and will be performed by May 15, 2004. EPA will also need to work with the generator-defendants to ensure that the deed restrictions for the Taracorp pile are put into place. EPA will need to continue to monitor the implementation of the paint SEP until it is complete. EPA has reviewed and approved the SEP Work Plan and will monitor its implementation, which is scheduled to begin in 2004.

#### Protectiveness Statement(s):

The remedy at the NL Industries/Taracorp Site is protective of human health and the environment because the final remedy has been implemented for the Site and the results of the five-year review sampling indicate that the remedy continues to be protective. EPA will need to continue to monitor the progress of the paint SEP, which is required by the Generator Consent Decree but is not part of the selected remedy.

**Other Comments:** None.

# Five-Year Review Report

## I. Introduction

The NL Industries/Taracorp Site in Granite City, Illinois (the Site) is a former secondary lead smelter that operated from the early 1900s to 1983. The remedy for the Site was implemented from early 1993 through May 2000 pursuant to a March 30, 1990 Record of Decision issued by the United States Environmental Protection Agency (EPA).

EPA conducted a first Five-Year Review in 1998, while the remedy was still underway. EPA issued the first Five-Year Review Report on March 31, 1999. ENTACT, the Generator-Defendants' contractor, conducted sampling and prepared a "Five Year Review Final Report" in September 2003 (the Monitoring Report), which was approved by EPA on October 2, 2003. The Monitoring Report is included in this Second Five-Year Review Report as Appendix 1. The Monitoring Report provides much of the information used to prepare the Second Five-Year Review Report and is frequently referenced to avoid duplication of effort.

### The Purpose of the Review

The purpose of five-year reviews is to determine whether the remedy at a site continues to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and recommendations to address them.

### Authority for Conducting the Five-Year Review

EPA is preparing this five-year review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA Section 121 states:

*If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with section 104 or 106, the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is*



*required, the results of all such reviews, and any actions taken as a result of such reviews.* EPA interpreted this requirement further in the NCP; 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii) states:

*If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for the unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

#### Who Conducted the Five-Year Review

The Generator-Defendants, through their contractor, ENTACT, conducted all of the sampling that was required for the five-year review. Representatives of ENTACT performed inspections of the Site, and the EPA Remedial Project Manager visited the site and monitored the integrity of the cover systems at the Site. EPA completed the review based on this information.

#### Other Review Characteristics

This is the second five-year review for the NL Industries/Taracorp Site. The triggering action for this review is the completion of the First Review in March 31, 1999. This review is being conducted 1) because the capping remedy at the site allowed hazardous substances to be left on site above levels that allow for unlimited use and unrestricted exposure and 2) to ensure that residential yards were not recontaminated with lead from neighboring yards where owners refused the cleanup.

## **II. Site Chronology**

The site chronology is tabularized below:

<u>Event</u>	<u>Date</u>
National Priorities List Listing	6/10/86
Remedial Investigation/Feasibility Study complete	3/30/90
Record of Decision signature	3/30/90
EPA issued Unilateral Order to PRPs	11/27/90
Remedial Design start (EPA-Lead)	3/8/91
Remedial Design complete (EPA-lead)	3/15/93

Remedial Action start (EPA-lead)	3/15/93
Decision Document/Explanation of Significant Differences	9/29/95
Remedial Action Continues (PRP-lead)	7/13/98
First Five-Year review	3/31/99
Remedial Action complete (PRP-lead)	5/30/00
Explanation of Significant Differences	9/19/00
Preliminary Close-out Report	9/26/00
Remedial Design/Remedial Action Consent Decree Entry	3/20/03

### **III. Background**

#### **Physical Characteristics**

The NL Industries/Taracorp Site in Granite City, Illinois is a former secondary lead smelter that operated from the early 1900s through 1983. Metals, including lead, were released to the environment via 1) airborne emissions from the tall stack on-site and fugitive dust from the 250,000 ton on-site slag pile; 2) crushed hard rubber battery casing material that was used as fill in nearby alleys, parking lots, driveways, and residential yards; and 3) ground water contamination resulting from releases of metals from the slag pile. The Main Industrial Site is 15.9 acres, but the contamination was spread via stack emissions and fill activities throughout a three-city area (Granite City, Madison, and Venice, Illinois) and isolated areas in neighboring communities.

#### **Land and Resource Use**

The Site is bounded by 16<sup>th</sup> Street on the east, Niedringhaus Road to the north, a rail corridor to the west and State Street to the south (See Figure 1). However, the contamination was spread throughout Granite City, Madison, and Venice, Illinois and isolated areas in neighboring communities. The nearest residences are immediately adjacent to the Site to the east, northeast, southwest, and south.

#### **History of Contamination**

Airborne metal (primarily lead) emissions from the facility's secondary smelting operations and fugitive dust from the 250,000 ton on-site slag pile contaminated approximately 1500 residences around the site. The furthest residences contaminated in this manner were located approximately

two miles from the former smelter, to the northeast. Additionally, crushed hard rubber battery casing material was sold or given away by NL Industries, and residents and local street crews used this material in alleys, parking lots, driveways, and to fill in some flood-prone areas which were ultimately developed into residential lots. The fill material was found as far as 16 miles away from the site, but the majority was located within two miles of the site. Last, ground water was contaminated by metals leaching from the on-site slag pile.

Lead contamination from the site came to be located in home interiors and surficial soils in many nearby residences, alleys, parks, and parking lots. Children in the area were impacted by the lead released from the site. A 1991 blood lead study indicated that 16% of the children in Granite City, Madison, and Venice aged 6 months to 6 years had blood lead levels exceeding 10 micrograms per deciliter (ug/dl), the Centers for Disease Control level of concern. Within one-quarter mile of the smelter, 25% of the kids had blood lead levels in excess of 10 ug/dl.

### **Initial Response**

In 1993, EPA and the U.S. Army's Corps of Engineers performed a rapid response action at the site to remove the most highly contaminated site areas, approximately 50 locations where battery casing fill material was located and readily accessible to children. This action was completed in 1994.

### **Basis for Taking Action**

The primary exposure pathway identified during the Remedial Investigation/Feasibility Study for the site was direct contact and ingestion of lead-contaminated soil and dust by small children. There was a known blood lead problem in the communities near the site. Inhalation of lead-bearing dust from the on-site slag pile was an additional exposure pathway of concern. Although the ground water in the immediate vicinity of the slag pile was contaminated with lead, cadmium, and zinc, this exposure pathway was not considered to be complete because all of the residents were on city water.

## **IV. Remedial Actions**

### **Remedy Selection**

The Remedial Action selected for the Site in the March 30, 1990 Record of Decision (ROD) was excavation and off-site disposal of soil and fill material from residential yards, parks, schools, alleys, parking lots, and driveways that exceeded 500 parts per million (ppm) lead; excavation and consolidation with the slag pile of Main Industrial Area soils and debris that exceeded 1000 ppm lead; capping of the slag pile; and expanded (deeper) ground water monitoring around the slag pile. The ROD also indicated that a blood lead study should be performed in the area around the Site. The remedy was modified slightly via the September 29, 1995 Decision Document/Explanation of Significant Differences (DD/ESD). The DD/ESD required off-site

monitoring and containment of the ground water plume emanating from the slag pile. After results of off-site monitoring indicated that the ground water contaminant plume was not migrating more than 100-200 feet from the edge of the slag pile, EPA issued a second Explanation of Significant Differences on September 19, 2000 that removed the requirement for a ground water containment remedy and required continuation of the expanded monitoring program and the development of a contingency plan in the event that the plume expanded in the future.

## **Remedy Implementation**

On November 27, 1990, after negotiations with the potentially responsible parties (PRPs) failed, EPA issued a Unilateral Administrative Order (UAO) to NL Industries (former owner/operator) and the top 49 generators at the Site to conduct the remedial action for the Site. After these PRPs failed to comply with the UAO, EPA undertook the Remedial Design (RD) and the Remedial Action (RA) for the Site using Superfund funding. The RD, which involved gaining access to and sampling approximately 3000 residential yards, was started in 1991 and finished in 1993. EPA, with the U.S. Army Corps of Engineers, conducted a rapid response action from 1993-1994 to clean up the most highly-contaminated yards, parking lots, driveways, and alleys where crushed battery casing material from the Site was used as fill. In August 1994, EPA began implementation of the remedial action for the approximately 1500 residential yards that were contaminated via smelter stack emissions. After several starts and stops due to legal matters that are discussed below, EPA finished its portion of the cleanup (approximately 740 residential yards) in summer 1998, and the Generator-Defendants took over the remedial action and finished the residential yard cleanups (approximately 770 yards), the remaining fill area cleanups, capping of the slag pile, and installing and sampling the expanded ground water monitoring system by May 30, 2000.

On the legal side, EPA filed a lawsuit against NL Industries and the top 9 generators in July 1991 for recovery of costs EPA was expending to perform the cleanup and penalties for failure to comply with the UAO. In 1994, the defendants and the City of Granite City filed a temporary restraining order against EPA in an effort to halt the cleanup. In 1996, the judge ruled in favor of EPA, and the Generator-Defendants and NL Industries each negotiated settlement agreements with EPA. The Generators took over the work from EPA in July 1998. The consent decree between the United States and six Generator-Defendants was entered on March 20, 2003. This Consent Decree (CD) required that the Generator-Defendants finish all remaining remedial work at the Site (which had already happened by the time the CD was entered), pay EPA \$8,970,000 in past costs, perform a \$2,000,000 Supplemental Environmental Project (SEP) for paint assessment and abatement in the Site area, and pay EPA a \$400,000 civil penalty. The CD with NL Industries, which was entered on May 12, 2003, required NL Industries to pay EPA \$29,780,000 in past costs and a \$1,000,000 civil penalty.

Due to the fact that wastes were left in place, via capping of the slag pile, inspections to determine the integrity of the cap and ground water and leachate monitoring must be conducted.

Additionally, since the cleanup involved over 1600 residential yards, alleys, etc, EPA required that the Generator-Defendants resample approximately 20 residential yards as part of the five-year review monitoring to assess whether recontamination with lead from yards where residents refused access or other sources may be occurring. Given that the monitoring programs will continue for a minimum of 30 years, the NL Industries/Taracorp Site will not be deleted from the National Priorities List (NPL) for a number of years.

## **V. Progress Since the Last Review**

The first five-year review was conducted in 1999, when all aspects of the remedy were still underway. No issues were identified during this five-year review, and this second five-year review is the first post-construction five-year review for the Site. Monitoring was performed pursuant to the Operation and Maintenance Plan for the Site, and the Monitoring Report was prepared by ENTACT, the Generator-Defendants' contractor.

## **VI. Five-Year Review Process**

### **Administrative Components**

The sampling activities, which are required pursuant to the Operation and Maintenance Plan for the Site, that were performed during the five-year review process are detailed in the attached Monitoring Report. Illinois EPA was notified of the five-year review and notice was published in the local newspaper in December 2002. The completed five-year review report will be placed in the site information repository, and notice of completion of the five-year review will be published in the local newspaper.

### **Community Involvement /Interviews**

EPA conducted three public availability sessions on December 11-12, 2002. No one raised any concerns that were specific to the five-year review or the protectiveness of the remedy. The only concerns raised were property restoration issues, which were referred to ENTACT for follow-up action.

### **Document and Data Review**

The list of documents and data reviewed in preparing for this Five-Year Review Report is listed in the attachment entitled "List of Documents Reviewed".

### **Site Inspection**

The NL Industries/Taracorp Site is physically inspected twice per year in accordance with the Operation and Maintenance manual for the Site. The results of these inspections are included in the Monitoring Report. The EPA inspected the site three times in conjunction with the five-year

review: December 11, 2002, May 15, 2003, and March 22, 2004. The inspection involved observations of the integrity of the cap on the slag pile, which was acceptable; however, several erosion areas were observed that require repairs.

## **VII. Technical Assessment**

**Question A: Is the remedy functioning as intended by the decision documents? Yes.**

### Remedial Action Performance

The primary exposure pathway at the Site was direct contact and ingestion of lead-contaminated soil and dust, and the secondary pathway was inhalation of fugitive dust from the slag pile. As indicated by the yard soil monitoring data in the Monitoring Report, the remedy has been effective in addressing the primary exposure pathway. There were several yards that were sampled that had recontamination with lead in the drip zone of the house, a pathway that would be likely be associated with lead-based exterior paint. Although not required by the ROD, the SEP to address paint issues in the Site area will be monitored by EPA to ensure that these homes with high lead concentrations in the drip zone are assessed and addressed, as necessary. The inspections of the cap on the slag pile by EPA and by ENTACT indicated that the cap is in good condition, thus preventing the generation of fugitive dust that contains lead. The inspection conducted on March 22, 2004, did identify seven areas where damage from erosion has recently occurred. These inspections indicated that the remedy was effective in addressing the secondary exposure pathway. Last, the ground water monitoring performed by ENTACT indicated that the lead, cadmium, and zinc in the ground water in the vicinity of the slag pile did not migrate further. The levels of these constituents generally decreased in the wells adjacent to the slag pile, which was expected since the cap diverts most of the runoff away from the pile.

In summary, the data gathered during the second five-year review indicate that the remedy continues to function as designed, is performing as expected, and that the containment of contaminants is effective.

### System Operation and Maintenance

The remedy for the Site does not include any operating systems; other than data collection for five-year reviews, the Operation and Maintenance (O&M) for the Site consists of twice annual site inspections to assess the integrity of the soil cap and make repairs, as needed. These inspections have been and will continue to be an effective means to ensure the cap integrity. There have been no significant problems observed during any of the recent cap inspections; however, the inspection conducted on March 22, 2004, did identify seven areas where damage from erosion has recently occurred.

### Opportunities for Optimization

Since there are no operating systems at the Site, there are limited opportunities for optimization of O&M. Prior to each five-year review, EPA and/or the Generator-Defendants may identify any sampling constituents that may be eliminated from the list of analytes. Since this was the first post-construction five-year review, this will be discussed prior to the third five-year review for the Site.

### Early Indicators of Potential Issues

Since there are no operating systems at the Site, the only early indicators of potential issues would be increasing lead concentrations in the residential yards that were cleaned up, physical observations of breeches in the cap, changes in the quantity and/or chemical composition of the leachate from the pile, or increases in the area and/or contaminant concentrations in the ground water plume. The data collected for the five-year review indicate that none of these issues are currently present. There was recontamination of the drip zones of several of the homes, and although not required by the ROD, EPA will ensure that these homes are included in the assessment performed during the paint SEP. The work plan for the SEP has been approved by EPA, and the physical work is expected to start in 2004. EPA will provide oversight for the implementation of the SEP.

### Implementation of Institutional Controls and Other Measures

Access controls, in the form of fencing and warning signs, are in place at the slag pile. These controls, along with the continued presence of Metalico (current owner of the former smelter property) employees at the site, are effective measures to limit access to the slag pile. The ROD requirement for deed restrictions on the Taracorp pile has not yet been implemented, so EPA needs to work with the generator-defendants to ensure that these restrictions are put into place. EPA will continue to require monitoring of residential yards that are adjacent to yards where the residents refused access for the cleanup so that recontamination, if it occurs, can be addressed before it becomes a potential health issue. EPA will also periodically check the residences with the highest lead concentrations that were not cleaned up due to access refusal (there are nine of them) to see if the owners have reconsidered their access refusal or if new owners would like to have the properties cleaned up, and take action as appropriate.

**Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid? Yes.**

### Changes in Standards and To Be Considered Criteria

There have been no changes in standards or To Be Considered criteria since the first five-year review.

#### Changes in Exposure Pathways

There have been no changes in the potential exposure pathways at the Site since the implementation of the remedy for the Site. There have been no land use changes at the Site nor are any expected in the near future. There is currently no redevelopment or reuse proposed for the slag pile.

#### Changes in Toxicity and Other Contaminant Characteristics

Neither the toxicity factors for the contaminants of concern nor other contaminant characteristics have changed in a way that could affect the protectiveness of the remedy. The primary contaminants of concern for the site (lead and other metals) are basically inert.

#### Changes in Risk Assessment Methods

Standardized risk assessment methods have not changed in a way that could affect the protectiveness of the remedy.

#### Expected Progress Toward Meeting Remedial Action Objectives

The remedy for the Site is progressing as expected. Remedial Action Objectives have been met at the Site, and the monitoring programs will continue to ensure that any changes in contaminant levels will be detected and addressed, if necessary.

**Question C: Has any other information come to light that could call into question the protectiveness of the remedy? No.**

There have been no newly identified ecological risks, impacts from natural disasters, or any other information that has been identified that could affect the protectiveness of the remedy for the Site.

### **VIII. Issues**

Issue	Currently Affects Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Institutional Controls-Not implemented	N	Y
Erosion of Cap Soils	N	Y
Implementation of Paint SEP	N	N



Based on the Monitoring Report and physical observations made during the inspections of the Site, there are two issues which may affect the protectiveness of the remedy outlined in the ROD in the future. First, the institutional controls required by the ROD have not yet been put in place. Second, during an inspection on March 22, 2004, EPA observed erosion of the Taracorp pile cap in seven separate locations. There is one issue that is not required by the ROD that EPA will continue to monitor, the paint SEP. The paint SEP is part of the Consent Decree with the Generator-Defendants and provides \$2,000,000 for paint assessment and abatement at residences within the Site area. EPA does not have authority to address interior lead-based paint; however, the paint SEP was negotiated as part of the CD with the Generator-Defendants in lieu of penalties. EPA will provide oversight of the paint SEP and has already approved the SEP Work Plan. The SEP is scheduled to begin in 2004, and one of EPA's comments was to include the properties (identified by the sampling results in the Monitoring Report) that had lead recontamination in the drip zone in the list of properties to be addressed by the SEP. EPA will continue to monitor the SEP under the terms of the CD and attain a multi-media cleanup at the Site.

## **IX. Recommendations and Follow-up Actions**

<b>Issue</b>	<b>Recommendations/Follow-up actions</b>	<b>Party Responsible</b>	<b>Oversight Agency</b>	<b>Milestone Date</b>	<b>Affects Protectiveness (Y/N)</b>
Institutional Controls	Need to be implemented	PRP Group and EPA	EPA	June 30, 2005	N-current Y-future
Cap Erosion	Fill/reseed	PRP Group	EPA	May 15, 2004	N-current Y-future
SEP implementation	EPA Oversight	Madison County Community Development	EPA	ongoing until 2008	N-current N-future

EPA will work with the generator-defendants to make sure that the required deed restrictions for the Taracorp pile are put in place. EPA will make sure that the routine repair of erosion channels on the Taracorp pile cap are undertaken as soon as weather permits. EPA will continue to provide oversight of the paint SEP and the twice-annual inspections of the slag pile to ensure that the multi-media cleanup envisioned in the CD is properly implemented and that the cap over the slag pile continues to provide a protective barrier over the wastes that were left in place at the Site. EPA will also continue to require sampling for lead in soil in a representative number of the residential yards that were cleaned up to ensure that recontamination is identified and addressed, where appropriate. So far, the only recontamination identified was in the drip zone of the homes, which is something that can and will be addressed by the paint SEP.

## **X. Protectiveness Statement**

The remedy at the NL Industries/Taracorp Site is protective of human health and the environment because the final remedy has been fully implemented, and the sampling data presented in the Monitoring Report indicate that the remedy continues to be effective in addressing the exposure pathways that were identified at the Site. The CD provides an extra measure of protection that cannot be provided under Superfund authority by requiring the implementation of an SEP to address lead-base paint issues in the Site area. This SEP helps to provide a multi-media cleanup that goes beyond the requirements in the ROD for the Site.

## **XI. Next Review**

The sampling activities for the next five-year review for the NL Industries/Taracorp Site will be performed in year 2008, with the Third Five-Year Review Report due five years from the date of signature of this Second Five-Year Review Report (March 2009).

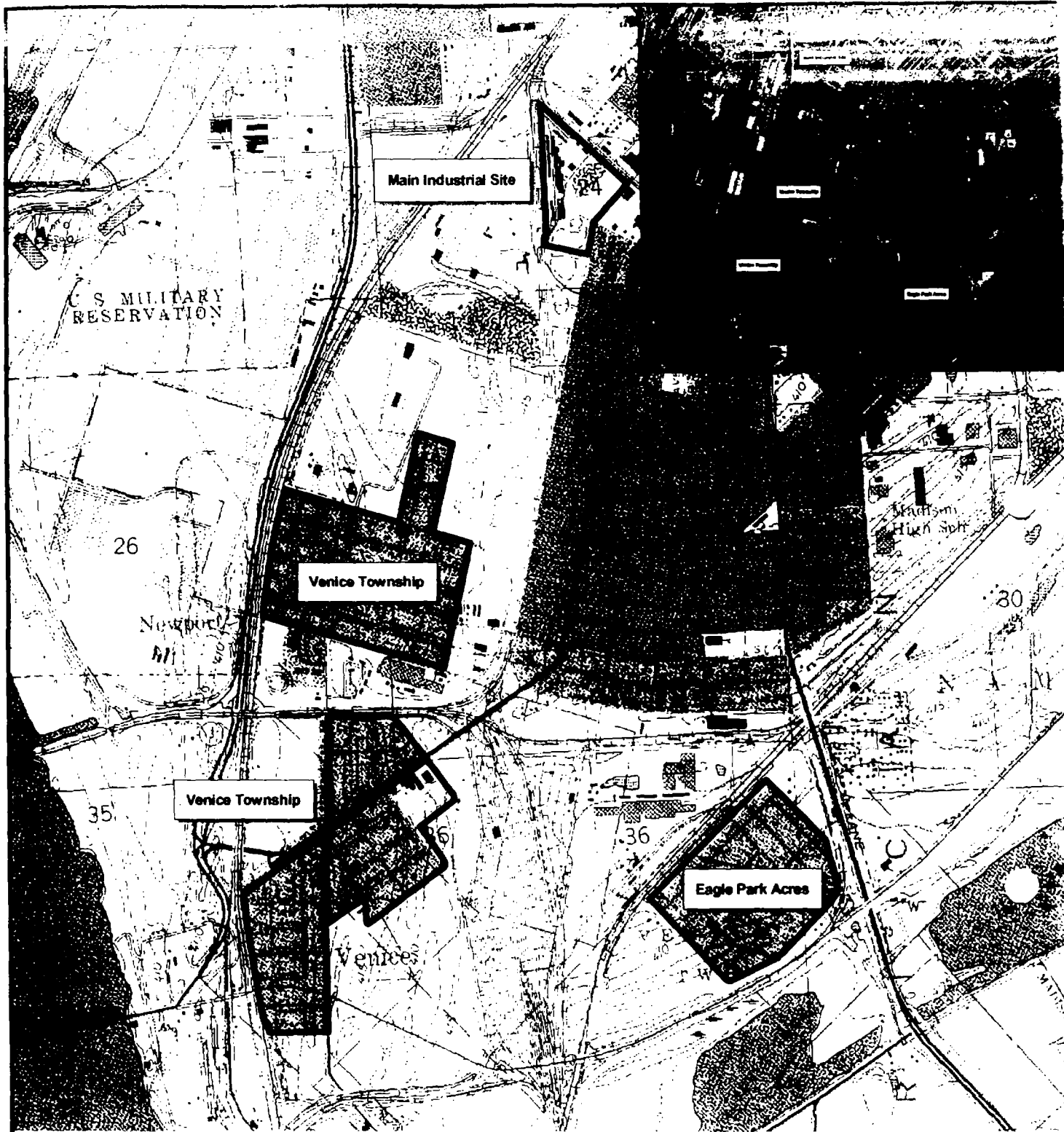
## **Attachments**

Figure 1- Site Map  
List of Documents Reviewed

## **Appendices**

Appendix 1- September 5, 2003 "Five Year Review Final Report" for the NL Industries/Taracorp Superfund Site in Granite City, Illinois

FIGURE 1



2000 0 2000 4000 Feet

Parcel

Topographical Map Source: United States Geological Survey  
7.5 minute Digital Raster Graphics Quadrangles used:  
Granite City, IL MO, 1993

Aerial Photo Source: Photographed 1999 by the  
National Aerial Photography Program and digitized by the  
USGS DOQ Program in 2001



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Drawing Date 09/04/2002	File Name nl.apr	File Location G:\GIS\Mapping\NL\CI001003 0007	Drawn By M. Eseman	Checked By K. Lala	Project Manager J. Kratzmeyer
NL Industries/Taracorp Superfund Site				Dept. Manager	View Site Location Map
Site Location Map				Project Number	Figure
				CI001003 0007	1
Granite City, Illinois					

**LIST OF DOCUMENTS REVIEWED**  
**(In Chronological Order)**

1. **Record of Decision for the NL Industries/Taracorp Site in Granite City, Illinois- March 30, 1990 (EPA)**
2. **Decision Document/Explanation of Significant Differences- September 29, 1995 (EPA)**
3. **First Five-Year Review Report- March 31, 1999 (EPA)**
4. **Explanation of Significant Differences- September 19, 2000 (EPA)**
5. **Comprehensive Five-Year Review Guidance- June 2001 (EPA)**
6. **Five Year Review Final Report for NL Industries/Taracorp Superfund Site- Granite City, Illinois- September 5, 2003 (ENTACT)**

# **Final Report** **for the** **NL Industries/** **Taracorp Superfund** **Site**

**Granite City, Illinois**



● Prepared for  
NL Industries/Taracorp Superfund  
Site Group

● Prepared by  
**ENTACT, Inc.**

September 8, 2003

ENTACT

NATION

CUSTOMER

CARE

**Year Review**

# **Final Report**

**for the**

**NL Industries/**

**Taracorp**

**Superfund**

**Site**

**Granite City, Illinois**

- **Prepared for  
NL/Industries/Taracorp  
Superfund Site**
- **Prepared by  
ENTACT, Inc.**
- **September 5, 2003**

**ENTACT**

**LEADING**

**THE**

**NATION**

**IN**

**CUSTOMER**

**CARE**

**Environmental  
Engineering  
Research  
Inc.**



ENTACT

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## **1.0 INTRODUCTION**

In October 2002, the NL Industries/Taracorp Superfund Site Group (Group) received a request from the U.S. Environmental Protection Agency Region 5 (USEPA) to conduct groundwater and soil sampling at the NL Industries/Taracorp Superfund Site (Site) in Granite City, Illinois, in conjunction with the USEPA five-year review. The purpose of the USEPA five-year review was to evaluate the implementation and performance of the remedy at the Site to determine if the remedy remains protective of human health and the environment.

In response to the USEPA request, the Group's Project Coordinator submitted a letter to USEPA on January 21, 2003, which included a scope of work for groundwater monitoring activities at the Site. USEPA approved the scope of work for groundwater monitoring in a letter issued on February 6, 2003. In response to the USEPA request, the Group also authorized ENTACT to prepare a Work Plan for conducting soil sampling activities and inspecting the main industrial site. On behalf of the Group, ENTACT prepared a Work Plan and submitted it to the USEPA for review and approval. The USEPA approved the Work Plan on April 10, 2003, with minor modifications. ENTACT submitted the final version of the Work Plan on April 29, 2003.

ENTACT crews mobilized to Granite City on May 5, 2003, to begin the soil sampling activities and to perform an inspection of the main industrial site. This Final Report describes the methods used to collect soil samples at remediated residential lots and remote fill areas and discusses the results of the sampling event. The results of the inspection conducted by ENTACT on the main industrial property are also included in this report.

## **2.0 PROJECT ACTIVITIES**

### **2.1 Submittal Preparation**

Prior to mobilizing to the Site, the following documents were prepared by ENTACT and submitted to the USEPA:

- Work Plan for Soil Sampling (Work Plan)
- Access Agreement (Appendix A to Work Plan)
- Sampling and Analysis Plan (Appendix B to Work Plan)
- O&M Inspection Log (Appendix C to Work Plan)
- Site Specific Health and Safety Plan (HASP)

### **2.2 Mobilization and Access Agreements**

ENTACT mobilized a small crew of Quality Assurance/Quality Control (QA/QC) technicians to Granite City, Illinois, on May 5, 2003, to begin the task of acquiring access agreements from property owners. The crew contacted owners of the previously remediated residential and remote fill properties listed in the Work Plan. If the owner of

the selected property did not grant access or was not possible to contact, ENTACT attempted to secure access to the next closest remediated property.

Of the initial forty residential properties listed in the Work Plan to be sampled (Table 1), eighteen alternate properties were selected due to the owner denying access, the property being vacant, or the crew being unable to locate the owner. Table 2 identifies the eighteen alternate properties that were sampled and the reasons why the alternate properties were selected. Copies of the signed access agreements are included in Appendix A. The locations of the properties that were sampled are shown on Figure 1.

## **2.3 Soil Sampling**

After obtaining the majority of the access agreements, ENTACT mobilized the sampling teams to Granite City to begin the sampling activities. Full-scale sampling began on May 15, 2003, with two sampling teams consisting of two QA/QC technicians per team. The following sampling objectives were achieved during the soil sampling activities performed by ENTACT:

- Collected soil samples from 40 remediated residential properties
- Collected soil samples from 5 remediated residential properties located adjacent to non-remediated residential properties where the owner of the non-remediated property had previously denied access for soil sampling and/or remedial activities
- Collected soil samples from 5 remote fill areas

### **2.3.1 Residential Properties**

Three composite soil samples were collected at each residential property for total lead analysis, except for properties where it was not possible to sample quadrants due to structures, asphalt, or other obstacles preventing access to the soil. One composite sample was collected from the front yard and one composite sample was collected from the back yard of each residential property. Each front yard and back yard composite sample consisted of five sample aliquots with one aliquot (grab) collected at each of the four corners of the area sampled and one collected near the center of the area sampled at a depth of 0-3 inches below ground surface (bgs).

At the request of the USEPA, a four-point composite sample was also collected at each residential property within the drip zone of each home to assess whether the lead concentrations in the soil are related to the lead concentrations in paint on the homes. At each residential property sampled, an aliquot of soil was collected from the drip zone on each side of the home. Each aliquot was collected at a depth of 0 – 3 inches bgs. The four aliquots were combined to form one composite drip zone soil sample for each residential property.

### **2.3.2 Remote Fill Areas**

Remote fill properties were properties where battery chips were formerly used as fill material and which have previously been remediated. Composite soil samples were collected from remote fill areas for total lead analysis.

For remote fill lots less than 150 feet x 50 feet, a 5-point composite sample was collected from both the front and back yards of each property. Remote fill lots greater than 150 feet x 50 feet were divided into 50 feet x 50 feet sampling grids. A 5-point composite sample was collected from each of the grids at a depth of 0-3 inches bgs. Samples were only collected from the grids or yards of remote fill properties that were remediated during previous work at the site.

## **3.0 SAMPLING PROCEDURES**

ENTACT sampling crews collected and managed samples in accordance with the approved Work Plan and the Sampling and Analysis Plan. Analytical results are included in Appendix B and summarized on Table 3.

### **3.1 Sample Collection**

Soil aliquot samples were collected at each sampling location using a stainless steel or plastic disposable scoop. The soil aliquot samples were placed in a Ziploc bag to form a composite sample representing each yard or grid sampled. The Ziploc bag was properly labeled with the property name/identification, sample location (including front yard, back yard, drip zone), sample depth, time, date, and initials of sampler. Field notes were recorded for each sample taken and included soil description (color, foreign material) and any other pertinent observations relating to the sample or conditions at the time of sampling.

The bagged samples were transported to a centrally located sample managing area where they were transferred to a stainless steel bowl and thoroughly mixed to achieve a homogenous blend. Vegetative material and rocks were removed from the soil. The homogenized sample was then placed in a sample container, and a sample identification number was assigned. A sample label was prepared and affixed to the sample container to identify sample number, sampler's name, date and time of collection, sample location, and project identification data.

The samples were submitted to the following laboratory for total lead analysis:

Environmetrics, Inc.  
11401 Moog Dr.  
St. Louis, Missouri 63146  
(314) 432-0550

A property diagram was prepared for each residential property and remote fill lot sampled showing the locations where each sample aliquot was collected. The diagrams

also include the general layout of the property and a description of relevant features of the property such as structures, trees, gardens, etc. Copies of the property diagrams are included in Appendix C.

### **3.2 Sample Equipment Decontamination**

Reusable sampling equipment (i.e. stainless steel bowl and scoop) used during sampling activities was decontaminated prior to each use to prevent cross contamination.

Decontamination was performed at the sample location to minimize the amount of decontamination water that was generated.

### **3.3 Sample Handling Procedures**

Chain of custody (COC) procedures served to minimize loss or misidentification of samples and to ensure that unauthorized persons did not tamper with collected samples. A COC form was filled out at the time of sample preparation and accompanied the associated samples to the laboratory.

Samples were packaged in such a manner as to prevent damage or breakage during transport. Sample labels were filled out at the time of placement of the sample into the container and were affixed to each container to identify sample number, sampler's name, date and time of collection, location of sampling point, and project identification data. Samples were relinquished to the Environmetrics' courier for transport to the laboratory for analysis. Copies of the COCs are included in Appendix D.

## **4.0 QUALITY CONTROL PROCEDURES**

All soil samples were analyzed for total lead in accordance with USEPA Method SW-6010B. A Level 4 Data Quality Objective (DQO) was used for all soil samples to provide the highest level of data quality.

Field and laboratory QC samples were collected to assess the quality of the analytical data and to evaluate sampling and analytical reproducibility (precision). Field QC samples consisted of duplicate samples and field blanks. Laboratory QC samples included matrix spike/matrix spike duplicate samples (MS/MSD).

### **4.1 Field Duplicates**

Fourteen duplicate samples were collected representing 10% of the total samples collected. At sample locations where duplicate samples were collected, a sufficient amount of soil was placed in the Ziploc plastic bag to ensure enough soil was available for laboratory testing of the soil sample and the field duplicate sample. The field duplicate sample was identified by the addition of a "FD" at the end of the sample identification.

Total lead results for the original and the field duplicate samples are shown on Table 3. A comparison of the lead results indicates that the duplicate sample results are within the same order of magnitude of the original sample at all but one location. The relative percent difference (RPD) ranged from 0 to 85 percent with the majority of the RPD range between 0 and 42 percent. These RPD values are considered to be typical of heterogeneous material such as lead-impacted soil where particles are not always evenly distributed throughout the sample.

#### **4.2 Field Blanks**

Because reusable-sampling equipment was used, a field blank sample was prepared at a rate of one sample for every ten soil samples to assess potential procedural errors in sampling or sample handling. Fourteen field blank samples were collected and submitted to the laboratory for total lead analysis. The field blank samples and total lead results are shown on Table 3. All total lead results for the field blank samples are below the laboratory detection limit.

#### **4.3 Matrix Spike/Matrix Spike Duplicates**

MS/MSD analysis was performed at a rate of one for every twenty soil samples analyzed by the laboratory.

### **5.0 MAIN INDUSTRIAL PROPERTY INSPECTION**

ENTACT personnel inspected the main industrial property on June 24, 2003. The results of the industrial property inspection are documented on the Operations and Maintenance Log in Appendix E.

### **6.0 RECORD KEEPING AND REPORTING**

#### **6.1 Record Keeping**

All records generated throughout the duration of the project are filed the ENTACT office located in Westmont, Illinois, where they will be retained for the appropriate retention period.

#### **6.2 Data Reporting**

A list of the properties sampled and the laboratory results were submitted to the USEPA and the Group's Project Coordinator for review prior to preparation of this Final Report.

### **7.0 DISCUSSIONS OF SAMPLING AND INSPECTION ACTIVITIES**

#### **7.1 Sampling Activities**

The total lead concentrations in the soil samples collected in the front yards, back yards, or quadrants were all below the cleanup criteria of 500-mg/kg total lead. Four of the drip

zone samples (collected at 1619-21 Edison, 2059 Cleveland, 1416 Washington, and 703 Washington) contained lead concentrations above 500 mg/kg.

The presence of lead in the drip zone samples may be attributable to factors unrelated to the industrial site, such as lead-based paint on the homes. Analytical results for the drip zone samples will be provided to Madison County for consideration as part of the Supplemental Environmental Project in accordance with the June 2003 Superfund Lead-Contaminated Residential Sites Handbook prepared by the USEPA.

## **7.2 Main Industrial Property Inspection**

As part of the work performed by ENTACT in conjunction with the USEPA five-year review, ENTACT conducted an inspection at the Main Industrial Property in accordance with the Operation and Maintenance Plan and ENTACT's Work Plan. The following items were inspected:

- Security fence, gate, and lock
- Access road
- Taracorp pile cover (condition, vegetation, etc.)
- Leachate collection system
- Concrete drainage channel
- Condition of structures on the former BV&G Trucking property.

The results of the inspection are documented in Appendix E.

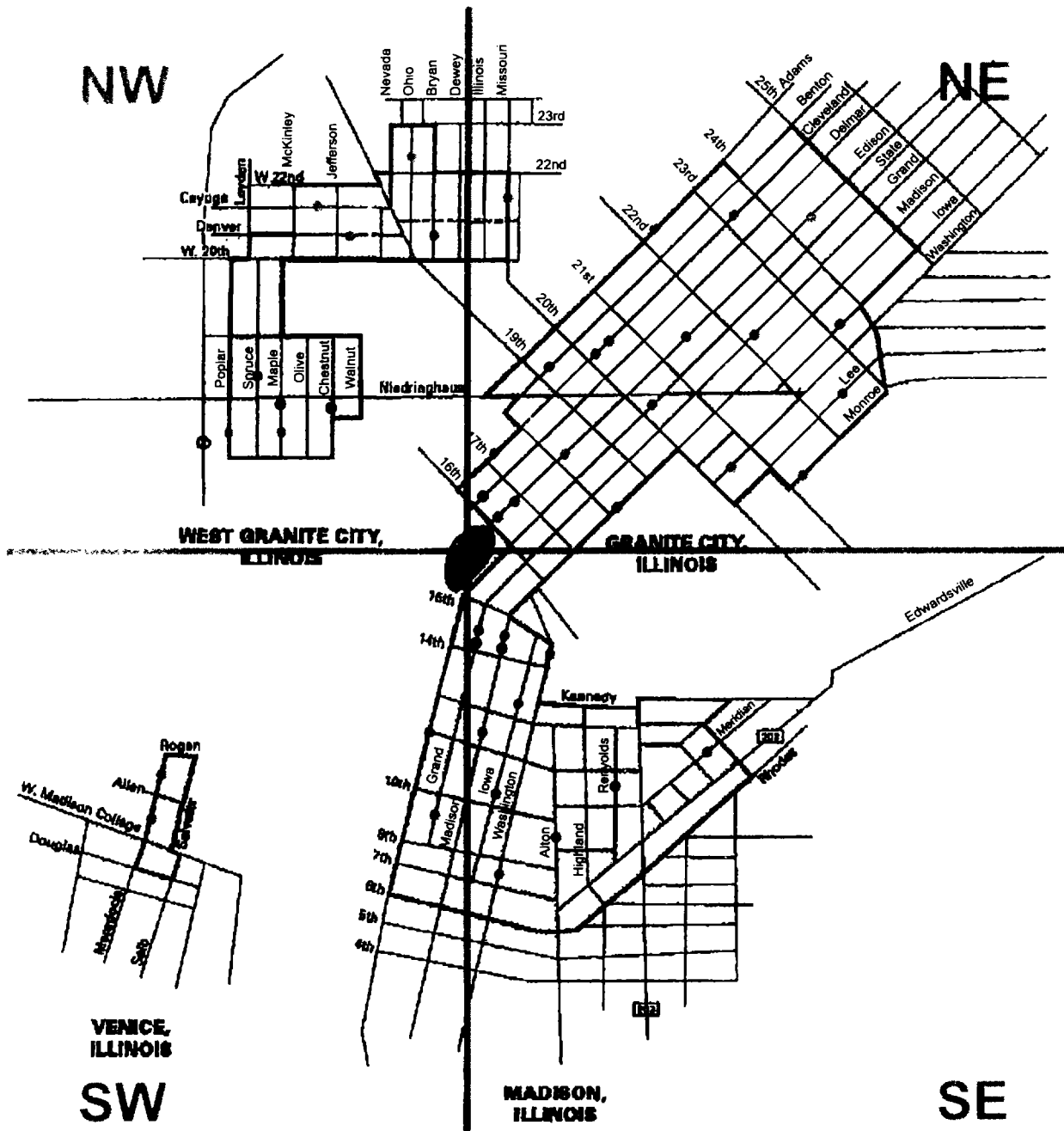
ENTACT

Figures



# FIGURE 1

## NL Taracorp Superfund Site Residential Lots Sampled

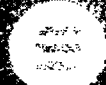


### Legend

- Remediated Residential Lots
- Adjacent to Denied Access Properties
- Taracorp Pile



0 1000 2000  
Approximate Scale in Feet



ENTACT

Tables

Table 1  
NL Industries/Taracorp Superfund Site  
Initial List Properties to be Sampled

Property #	Property Type	Address	City	Sampling Quadrant
1	Residential Lot	1619-21 Edison	Granite City	NE
2	Residential Lot	1736 Cleveland	Granite City	NE
3	Residential Lot	1700 Edison	Granite City	NE
4	Residential Lot	1821 Edison	Granite City	NE
5	Residential Lot	1821 Madison	Granite City	NE
6	Residential Lot	1939 Benton	Granite City	NE
7	Residential Lot	1928 State	Granite City	NE
8	Residential Lot	2059 Cleveland	Granite City	NE
9	Residential Lot	2023 Cleveland	Granite City	NE
10	Residential Lot	2032 Washington	Granite City	NE
11	Residential Lot	2135 Edison	Granite City	NE
12	Residential Lot	2107 Monroe	Granite City	NE
13	Residential Lot	2220 Adams	Granite City	NE
14	Residential Lot	2201-03 Grand	Granite City	NE
15	Residential Lot	2253 Lee	Granite City	NE
16	Residential Lot	2317 Cleveland	Granite City	NE
17	Residential Lot	2304 Iowa	Granite City	NE
18	Residential Lot	2432 Edison	Granite City	NE
19	Residential Lot	2133 Missouri	Granite City	NE
20	Residential Lot	1750 Maple	Granite City	NW
21	Residential Lot	1820 Spruce	Granite City	NW
22	Residential Lot	1903 Spruce	Granite City	NW
23	Residential Lot	2032 Bryan	Granite City	NW
24	Residential Lot	2220 Ohio	Granite City	NW
25	Residential Lot	2610 Denver	Granite City	NW
26	Residential Lot	2701Cayuga	Granite City	NW
27	Residential Lot	623 Meredocia	Venice	SW
28	Residential Lot	528 Meredocia	Venice	SW
29	Residential Lot	918 Grand	Madison	SW
30	Residential Lot	1200 State	Madison	SW
31	Residential Lot	1438 Grand	Madison	SE
32	Residential Lot	1430 Madison	Madison	SE
33	Residential Lot	1416 Washington	Madison	SE
34	Residential Lot	1315 Iowa	Madison	SE

Table 1  
NL Industries/Taracorp Superfund Site  
Initial List Properties to be Sampled

Property #	Property Type	Address	City	Sampling Quadrant
35	Residential Lot	1227 Madison	Madison	SE
36	Residential Lot	1233 Meridian	Madison	SE
37	Residential Lot	1027 Iowa	Madison	SE
38	Residential Lot	918 Alton	Madison	SE
39	Residential Lot	722 Washington	Madison	SE
40	Residential Lot	1126 Reynolds	Madison	SE
41	Adjacent to Access Denied	1643 Delmar	Granite City	NE
42	Adjacent to Access Denied	1437 Grand	Granite City	SE
43	Adjacent to Access Denied	1427 Madison	Granite City	SE
44	Adjacent to Access Denied	1731 Maple	Granite City	NW
45	Adjacent to Access Denied	1731 Chestnut	Granite City	NW
46	Remote Fill Lot*	115 Booker	Granite City	NA
47	Remote Fill Lot*	210 Roosevelt	Granite City	NA
48	Remote Fill Lot*	212 Hill	Granite City	NA
49	Remote Fill Lot*	91 Harrison	Granite City	NA
50	Remote Fill Lot*	213 Watson	Granite City	NA

\* Remote fill lots are located in the Eagle Park Acres subdivision not shown on Figure 1

Table 2  
NL Industries/Taracorp Superfund Site 5 Year Review  
Alternate Properties Description

Property Type	Initial Address	Alternate Address	Access Comments
Residential	1736 Cleveland	1726 Cleveland	Could not locate owner of 1736 Cleveland. Property next door, 1734 Cleveland, denied access. Therefore, sampled 1726 Cleveland which is a remediated property located 3 properties away.
Residential	1928 State	2039 State	Vacant Commercial Area/ No adjacent properties to 1928 State, so sampled 2039 State which is a nearby remediated property.
Residential	2023 Cleveland	2021 Cleveland	2023 Cleveland is a vacant house. Could not locate owner, so sampled 2021 Cleveland which is the remediated property next door.
Residential	2135 Edison	2153 Edison	2135 Edison is a vacant house. Could not locate owner, so sampled 2153 Edison which is a remediated property located 5 properties away.
Residential	2107 Monroe	2103 Monroe	2107 Monroe is a vacant house. Could not locate owner, so sampled 2103 Monroe which is the closest remediated property, located 2 properties away.
Residential	2201-03 Grand	2204 Grand	2201-03 Grand is an apartment building. Could not locate owner, so sampled 2204 Grand which is a remediated property across the street.
Residential	2317 Cleveland	2323 Cleveland	Could not locate owner of 2317 Cleveland, so sampled 2323 Cleveland which is the remediated property next door.
Residential	2304 Iowa	2310 Iowa	Could not locate owner of 2304 Iowa, so sampled 2310 Iowa which is the closest remediated property, located 2 properties away.
Residential	2133 Missouri	2135 Missouri	2133 Missouri is a rental property. Could not locate owner, so sampled 2135 Missouri which is the remediated property next door.
Residential	1750 Maple	1748 Maple	Could not locate owner of 1750 Maple, so sampled 1748 Maple which is the remediated property next door.

Table 2  
NL Industries/Taracorp Superfund Site 5 Year Review  
Alternate Properties Description

Property Type	Initial Address	Alternate Address	Access Comments
Residential	1820 Spruce	1827 Spruce	1820 Spruce is a rental property. Could not locate owner, so sampled 1827 Spruce which is a remediated property located across the street and over two properties.
Residential	1903 Spruce	1748 Poplar	1903 Spruce is a vacant house. Could not locate owner, so sampled 1748 Poplar which is a nearby remediated property.
Residential	623 Meredocia	619-621 Meredocia	Could not locate owner of 619-621 Meredocia, so sampled 623 Meredocia which is the remediated property next door.
Residential	528 Meredocia	547 Meredocia	528 Meredocia is a vacant house. Could not locate owner, so sampled 547 Meredocia which is a nearby remediated property.
Residential	918 Grand	901 Grand	918 Grand is a vacant house as is the house across the street at 919 Grand and next door at 916 Grand. Sampled 901 Grand which is a nearby remediated property, located across the street and over 3 properties.
Residential	1315 Iowa	1316 Iowa	1315 Iowa is a garage. Sampled 1316 Iowa which is a remediated property across the street.
Residential	1027 Iowa	1014 Iowa	1027 Iowa is a vacant house. Sampled 1014 Iowa which is a remediated property located across the street and over 2 properties.
Residential	722 Washington	703 Washington	722 Washington is a rental property. The owner did not return calls. Sampled 703 Washington which is a nearby remediated property located across the street and over 5 properties.
Adj to Access Denied	1735 Chestnut (1731 Chestnut was an original denial)	1732 Chestnut	Could not locate owners of any properties adjacent to 1731 Chestnut. Sampled adjacent to another denied property across the street, 1736/38 Chestnut, at 1732 Chestnut.

Table 3  
NL Industries/Taracorp Superfund Site 5 Year Review  
Summary of Total Lead Results

Initial or Alternate Address	Access Date	Property Type	Sampled Address	Initial Address	City/Quad	Sample Information		Lead Results (mg/kg)
						Sample Identification	Date Collected	
Initial	5/7/2003	Residential	1619-21 Edison		Granite City NE	RP- 1619-21 Edison-FY	5/15/2003	73.9
						RP- 1619-21 Edison-BY	5/15/2003	82.5
						<b>RP- 1619-21 Edison-DZ</b>	<b>5/15/2003</b>	<b>1170</b>
Alternate	5/27/2003	Residential	1726 Cleveland	1736 Cleveland	Granite City NE	RP-1726 Cleveland-FY	5/28/2003	65.2
						RP-1726 Cleveland-BY	5/28/2003	58.7
						RP-1726 Cleveland-DZ	5/28/2003	99.8
						RP-1726 Cleveland-DZ-FD	5/28/2003	135
						FB-008	5/28/2003	<0.044 mg/l
Initial	5/20/2003	Residential	1700 Edison		Granite City NE	RP- 1700 Edison-FY	5/21/2003	139
						RP- 1700 Edison-BY	5/21/2003	94.8
						RP- 1700 Edison-BY-FD	5/21/2003	95.6
						FB-006	5/21/2003	<0.044 mg/l
Initial	5/5/2003	Residential	1821 Edison		Granite City NE	RP- 1821 Edison-FY	5/15/2003	43.4
Initial	5/29/2003	Residential	1821 Madison		Granite City NE	RP- 1821 Madison-FY	5/30/2003	311
						RP- 1821 Madison-BY	5/30/2003	122
						RP- 1821 Madison-DZ	5/30/2003	145
						RP- 1821 Madison-DZ-FD	5/30/2003	149
Initial	5/5/2003	Residential	1939 Benton		Granite City NE	RP- 1939 Benton-FY	5/15/2003	25.2
						RP- 1939 Benton-BY	5/15/2003	34.7
						RP- 1939 Benton-DZ	5/15/2003	137
						RP- 1939 Benton-FY-FD	5/15/2003	29.8
						FB-003	5/15/2003	<0.044 mg/l
Alternate	5/30/2003	Residential	2039 State	1928 State	Granite City NE	RP- 2039 State-FY	5/30/2003	36.6
						FB-014	5/30/2003	<0.044 mg/l
						RP- 2039 State-BY	5/30/2003	41
						RP- 2039 State-DZ	5/30/2003	295
Initial	5/20/2003	Residential	2059 Cleveland		Granite City NE	RP- 2059 Cleveland-BY	5/22/2003	200
						<b>RP- 2059 Cleveland-DZ</b>	<b>5/22/2003</b>	<b>677</b>
						RP- 2059 Cleveland-FY	5/22/2003	469
Alternate	5/20/2003	Residential	2021 Cleveland	2023 Cleveland	Granite City NE	RP- 2021 Cleveland-FY	5/22/2003	58.3
						RP- 2021 Cleveland-FY-FD	5/22/2003	62.2

Table 3  
NL Industries/Taracorp Superfund Site 5 Year Review  
Summary of Total Lead Results

Initial or Alternate Address	Access Date	Property Type	Sampled Address	Initial Address	City/Quad	Sample Information		Lead Results (mg/kg)
						Sample Identification	Date Collected	
						RP- 2021 Cleveland-BY	5/22/2003	57
						RP- 2021 Cleveland-DZ	5/22/2003	133
						FB-007	5/22/2003	<0.044 mg/l
Initial	5/20/2003	Residential	2032 Washington		Granite City NE	RP- 2032 Washington-FY	5/21/2003	28.5
						RP- 2032 Washington-BY	5/21/2003	41
Alternate	5/29/2003	Residential	2153 Edison	2135 Edison	Granite City NE	RP- 2153 Edison-FY	5/29/2003	22
						RP- 2153 Edison-BY	5/29/2003	23.7
						RP- 2153 Edison-DZ	5/29/2003	191
Alternate	5/20/2003	Residential	2103 Monroe	2107 Monroe	Granite City NE	RP- 2103 Monroe-BY	5/28/2003	37.9
						RP- 2103 Monroe-FY	5/28/2003	57.7
						RP- 2103 Monroe-FY-FD	5/28/2003	46
						RP- 2103 Monroe-DZ	5/28/2003	133
						FB-009	5/28/2003	<0.044 mg/l
Initial	5/7/2003	Residential	2220 Adams		Granite City NE	RP- 2220 Adams-FY	5/15/2003	45
						RP- 2220 Adams-BY	5/15/2003	46.4
						RP- 2220 Adams-DZ	5/15/2003	35
Alternate	5/29/2003	Residential	2204 Grand	2201-03 Grand	Granite City NE	RP-2204 Grand-FY	5/29/2003	41.7
						RP-2204 Grand-BY	5/29/2003	21.4
						RP-2204 Grand-DZ	5/29/2003	45.8
Initial	5/5/2003	Residential	2253 Lee		Granite City NE	RP- 2253 Lee-DZ	5/16/2003	126
						RP- 2253 Lee-FY	5/16/2003	240
						RP- 2253 Lee-BY	5/16/2003	55.9
Alternate	5/29/2003	Residential	2323 Cleveland	2317 Cleveland	Granite City NE	RP- 2323 Cleveland-FY	5/29/2003	50.7
						RP- 2323 Cleveland-BY	5/29/2003	80.4
						RP- 2323 Cleveland-DZ	5/29/2003	153
Alternate	5/27/2003	Residential	2310 Iowa	2304 Iowa	Granite City NE	RP- 2310 Iowa-FY	5/28/2003	74.5
						RP- 2310 Iowa-BY	5/28/2003	95.1
						RP- 2310 Iowa-DZ	5/28/2003	165
Initial	5/5/2003	Residential	2432 Edison		Granite City NW	RP- 2432 Edison-BY	5/16/2003	78.2
						RP- 2432 Edison-FY	5/16/2003	195
						RP- 2432 Edison-FY-FD	5/16/2003	140



Table 3  
NL Industries/Taracorp Superfund Site 5 Year Review  
Summary of Total Lead Results

Initial or Alternate Address	Access Date	Property Type	Sampled Address	Initial Address	City/Quad	Sample Information		Lead Results (mg/kg)
						Sample Identification	Date Collected	
						FB-004	5/16/2003	<0.044 mg/l
						RP- 2432 Edison-DZ	5/16/2003	87.8
Alternate	5/27/2003	Residential	2135 Missouri	2133 Missouri	Granite City NW	RP- 2135 Missouri-FY	5/28/2003	63
						RP- 2135 Missouri-DZ	5/28/2003	83.3
Alternate	5/20/2003	Residential	1748 Maple	1750 Maple	Granite City NW	RP- 1748 Maple-FY	5/22/2003	141
						RP- 1748 Maple-BY	5/22/2003	61.2
Alternate	5/29/2003	Residential	1827 Spruce	1820 Spruce	Granite City NW	RP- 1827 Spruce-FY	5/30/2003	104
						RP- 1827 Spruce-BY	5/30/2003	142
						RP- 1827 Spruce-DZ	5/30/2003	63.1
Alternate	5/29/2003	Residential	1748 Poplar	1903 Spruce	Granite City NW	RP- 1748 Poplar-FY	5/30/2003	12.4
						RP- 1748 Poplar-BY	5/30/2003	15
						RP- 1748 Poplar-DZ	5/30/2003	12.1
Initial	5/5/2003	Residential	2032 Bryan		Granite City NW	RP- 2032 Bryan-FY	5/16/2003	52.8
						RP- 2032 Bryan-BY	5/16/2003	89.5
						RP- 2032 Bryan-DZ	5/16/2003	79.4
Initial	5/27/2003	Residential	2220 Ohio		Granite City NW	RP- 2220 Ohio-FY	5/28/2003	170
						RP- 2220 Ohio-BY	5/28/2003	196
						RP- 2220 Ohio-DZ	5/28/2003	236
Initial	5/5/2003	Residential	2610 Denver		Granite City SW	RP- 2610 Denver-FY	5/16/2003	48.5
						RP- 2610 Denver-BY	5/16/2003	22.2
						RP- 2610 Denver-DZ	5/16/2003	78
Initial	5/7/2003	Residential	2701 Cayuga		Granite City SW	RP- 2701 Cayuga-FY	5/16/2003	71.9
						RP- 2701 Cayuga-BY	5/16/2003	155
						RP- 2701 Cayuga-DZ	5/16/2003	178
						RP- 2701 Cayuga-DZ-FD	5/16/2003	230
						FB-005	5/16/2003	<0.044 mg/l
Alternate	5/29/2003	Residential	619-621 Meredoc	623 Meredocia	Granite City SW	RP- 619-21 Meredocia-FY	5/30/2003	84
						RP- 619-21 Meredocia-BY	5/30/2003	91.9
						RP- 619-21 Meredocia-DZ	5/30/2003	138
Alternate	5/29/2003	Residential	547 Meredocia	528 Meredocia	Granite City SW	RP- 547 Meredocia-FY	5/30/2003	54.1
						RP- 547 Meredocia-BY	5/30/2003	21.2

Table 3  
NL Industries/Taracorp Superfund Site 5 Year Review  
Summary of Total Lead Results

Initial or Alternate Address	Access Date	Property Type	Sampled Address	Initial Address	City/Quad	Sample Information		Lead Results (mg/kg)
						Sample Identification	Date Collected	
						RP- 547 Meredocia-BY-FD	5/30/2003	20.4
						RP- 547 Meredocia-DZ	5/30/2003	96.1
						FB-013	5/30/2003	<0.044 mg/l
Alternate	5/29/2003	Residential	901 Grand	918 Grand	Granite City SW	RP- 901 Grand-FY	5/29/2003	92.5
						RP- 901 Grand-BY	5/29/2003	271
						RP- 901 Grand-DZ	5/29/2003	326
						RP- 901 Grand-BY-FD	5/29/2003	176
						FB-011	5/29/2003	<0.044 mg/l
Initial	5/8/2003	Residential	1200 State		Granite City SW	RP- 1200 State-BY	5/16/2003	254
						RP- 1200 State-DZ	5/16/2003	256
Initial	5/7/2003	Residential	1438 Grand		Madison SE	RP- 1438 Grand-FY	5/21/2003	17
						RP- 1438 Grand-BY	5/21/2003	30.3
Initial	5/5/2003	Residential	1430 Madison		Madison SE	RP- 1430 Madison-FY	5/15/2003	240
						RP- 1430 Madison-BY	5/15/2003	14
						RP- 1430 Madison-DZ	5/15/2003	474
Initial	5/28/2003	Residential	1416 Washington		Madison SE	RP- 1416 Washington-FY	5/29/2003	46.7
						<b>RP- 1416 Washington-DZ</b>	<b>5/29/2003</b>	<b>803</b>
Alternate	5/28/2003	Residential	1316 Iowa	1315 Iowa	Madison SE	RP- 1316 Iowa-FY	5/29/2003	118
						RP- 1316 Iowa-BY	5/29/2003	137
						RP- 1316 Iowa-DZ	5/29/2003	154
Initial	5/7/2003	Residential	1227 Madison		Madison SE	RP- 1227 Madison-FY	5/21/2003	10
						RP- 1227 Madison-BY	5/21/2003	10
Initial	5/28/2003	Residential	1233 Meridian		Madison SE	RP- 1233 Meridian-FY	5/28/2003	69.3
						RP- 1233 Meridian-BY	5/28/2003	75.2
						RP- 1233 Meridian-DZ	5/28/2003	124
Alternate	5/28/2003	Residential	1014 Iowa	1027 Iowa	Madison SE	RP- 1014 Iowa-FY	5/28/2003	110
						RP- 1014 Iowa-BY	5/28/2003	73.1
						RP- 1014 Iowa-BY-FD	5/28/2003	183
						RP- 1014 Iowa-DZ	5/28/2003	98.3
						FB-010	5/28/2003	<0.044 mg/l
Initial	5/28/2003	Residential	918 Alton		Madison SE	RP- 918 Alton-FY	5/28/2003	76.8

Table 3  
NL Industries/Taracorp Superfund Site 5 Year Review  
Summary of Total Lead Results

Initial or Alternate Address	Access Date	Property Type	Sampled Address	Initial Address	City/Quad	Sample Information		Lead Results (mg/kg)
						Sample Identification	Date Collected	
						RP- 918 Alton-BY	5/28/2003	103
						RP- 918 Alton-DZ	5/28/2003	198
Alternate	5/28/2003	Residential	703 Washington	722 Washington	Madison SE	RP- 703 Washington-FY	5/29/2003	84.2
						RP- 703 Washington-BY	5/29/2003	67.3
						<b>RP- 703 Washington-DZ</b>	<b>5/29/2003</b>	<b>666</b>
Initial	5/5/2003	Residential	1126 Reynolds		Madison SE	RP- 1126 Reynolds-FY	5/16/2003	21.7
						RP- 1126 Reynolds-BY	5/16/2003	21.8
						RP- 1126 Reynolds-DZ	5/16/2003	17.2
Initial	6/24/2003	Adj to Access Denied [1]	1641 Delmar		Granite City NE	RP-1641 Delmar-FY	6/24/2003	59.2
						RP-1641 Delmar-BY	6/24/2003	52.1
						RP-1641 Delmar-DZ	6/24/2003	(453)
						FB-012	5/29/2003	<0.044 mg/l
Initial	6/24/2003	Adj to Access Denied [1]	1443 Grand		Madison SE	RP- 1443 Grand-FY	6/24/2003	54.4
						RP- 1443 Grand-BY	6/24/2003	108
						RP- 1443 Grand-DZ	6/24/2003	(355)
Initial	6/24/2003	Adj to Access Denied [1]	1429 Madison		Madison SE	RP- 1429 Madison-FY	6/24/2003	82.6
						RP- 1429 Madison -FY FD	6/24/2003	99.1
						RP- 1429 Madison-BY	6/24/2003	129
						RP- 1429 Madison-DZ	6/24/2003	82.5
						FB-015	6/24/2003	<0.044 mg/l
Initial	5/20/2003	Adj to Access Denied [1]	1733 Maple		Granite City NW	RP- 1733 Maple-FY	5/22/2003	69.9
						RP- 1733 Maple-BY	5/22/2003	82.3
						RP- 1733 Maple-DZ	5/22/2003	105
Alternate	6/24/2003	Adj to Access Denied [1]	1732 Chestnut	1735 Chestnut	Granite City NW	RP- 1732 Chestnut-FY	6/24/2003	52.6
						RP- 1732 Chestnut-BY	6/24/2003	70.8
						RP- 1732 Chestnut-DZ	6/24/2003	173

Table 3  
NL Industries/Taracorp Superfund Site 5 Year Review  
Summary of Total Lead Results

Initial or Alternate Address	Access Date	Property Type	Sampled Address	Initial Address	City/Quad	Sample Information		Lead Results (mg/kg)
						Sample Identification	Date Collected	
Initial	5/7/2003	Remote Fill	115 Booker		Granite City	RF-115 Booker-DZ	5/15/2003	196
						RF-115 Booker-FY	5/15/2003	173
						RF-115 Booker-BY	5/15/2003	164
Initial	5/7/2003	Remote Fill	210 Roosevelt		Granite City	RF-210 Roosevelt-FY	5/15/2003	134
						RF-210 Roosevelt-BY	5/15/2003	66.8
Initial	5/7/2003	Remote Fill	212 Hill		Granite City	RF-212 Hill-FY	5/15/2003	301
						RF-212 Hill-FY-FD	5/15/2003	326
						FB-001	5/15/2003	<0.044 mg/l
						RF-212 Hill-BY	5/15/2003	302
Initial	5/7/2003	Remote Fill	91 Harrison		Granite City	RF-91 Harrison-FY1	5/15/2003	21.7
						RF-91 Harrison-FY2	5/15/2003	21.8
						RF-91 Harrison-FY3	5/15/2003	17.2
						RF-91 Harrison-BY1	5/15/2003	23.3
						RF-91 Harrison-BY2	5/15/2003	22.9
						RF-91 Harrison-BY3	5/15/2003	21.6
Initial	5/7/2003	Remote Fill	213 Watson		Granite City	RF-213 Watson-FY1	5/15/2003	251
						RF- 213 Watson-BY1	5/15/2003	139
						RF- 213 Watson-DZ	5/15/2003	240
						RF- 213 Watson-FY2	5/15/2003	215
						RF- 213 Watson-BY2	5/15/2003	111
						RF- 213 Watson-BY3	5/15/2003	93.7
						RF- 213 Watson-BY3-FD	5/15/2003	118
						FB-002	5/15/2003	<0.044 mg/l
						RF- 213 Watson-BY4	5/15/2003	304

[1] Properties adjacent to access denied properties were selected per the EPA letter dated April 10, 2003

1990-1991  
JANUARY  
PAGE 20

ENTACT

Appendix

A

## CONSENT FOR ACCESS TO PROPERTY

Name: Linda Reinhardt Daytime phone number: 618-451-0118

Address(es) of Property/Properties: 2032 Bryan Ave.  
Granite City, Illinois

I consent to allowing authorized representatives of the NL/Taracorp Superfund Site Group (Group), its authorized representatives and contractors, the United States Environmental Protection Agency (EPA), its authorized representatives and contractors, and the State of Illinois, its authorized representatives and contractors, to enter and have continued access to my property for the purpose of sampling **soil lead levels** in conjunction with EPA's Comprehensive 5-Year Review Process for the NL/Taracorp Superfund Site.

The purpose of the EPA 5-Year Review is to evaluate the implementation and performance of the selected remedy to determine if the remedy remains protective of human health and the environment.

This written permission is given voluntarily with knowledge of its right to refuse and without threats or promises of any kind. I understand that if there is any damage to structures such as sidewalks that is caused by the work conducted by the Group or its authorized representatives and contractors, then the Group and its authorized representatives and contractors shall repair such damage.

5-5-03

Date

☒ I grant access to my property

☐ I do not grant access to my property

Linda Reinhardt  
Signature

\_\_\_\_\_  
Signature

*Please return as soon as possible using the self-addressed, stamped envelope addressed to ENTACT, Inc., 1360 N. Wood Dale Road, Wood Dale, IL 60191. If you have any questions please contact Mr. Rich Wood at (630)616-2100..*

CONTACT

Appendix

B

# ENVIRONMETRICS

www.environmetrics.net

11401 Moog Drive  
St. Louis, MO 63146

(314) 432-0550  
Fax (314) 432-4977

June 3, 2003

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

Attn: CAROLINE PANICO

Enclosed you will find analytical reports for the samples described below:

Date Received: 05/19/03  
Chain of Custody Number: 18506  
Project No.: C-819  
P.O.: ---  
Environmetrics Laboratory Number: 9912/13467

I have reviewed the data generated by the laboratory and have found the data to conform to the applicable methods and QC criteria. Results are reported as received unless otherwise noted on the report. If you have any questions, please feel free to call me at (314) 432-0550.

Sincerely,

  
Elizabeth Ghafoori  
Project Manager

Enclosure: Invoice Number 60783

This report shall not be reproduced, except in full, without the written approval of Environmetrics.

This report contains 13 pages.



Where Experience is the Difference



# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60783  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-7  
PREP. DATE: 05/30/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-7  
PREP. DATE: 05/30/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.09	109

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60783  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-8  
PREP. DATE: 05/30/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-8  
PREP. DATE: 05/30/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.07	107

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60783  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-10  
PREP. DATE: 05/30/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-10  
PREP. DATE: 05/30/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.02	102

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60783  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-11  
PREP. DATE: 05/30/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-11  
PREP. DATE: 05/30/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.00	100

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60783  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE ONE

LAB NO.	IDENTIFICATION		RESULTS
9912013467-001	RF-91 HARRISON-FY1	05/15/03 11:01	21.7 mg/Kg
9912013467-002	RF-91 HARRISON-FY2	05/15/03 11:10	21.8 mg/Kg
9912013467-003	RF-91 HARRISON-FY3	05/15/03 11:20	17.2 mg/Kg
9912013467-004	RF-91 HARRISON-BY1	05/15/03 11:09	23.3 mg/Kg
9912013467-005	RF-91 HARRISON-BY2	05/15/03 11:12	22.9 mg/Kg
9912013467-006	RF-91 HARRISON-BY3	05/15/03 11:22	21.6 mg/Kg
9912013467-007	RF-115 BOOKER-DZ	05/15/03 11:47	196 mg/Kg
9912013467-008	RF-115 BOOKER-FY	05/15/03 11:52	173 mg/Kg
9912013467-009	RF-115 BOOKER-BY	05/15/03 11:55	164 mg/Kg
9912013467-010	RF-212 HILL-FY	05/15/03 12:16	301 mg/Kg
9912013467-011	RF-212 HILL-FY-FD	05/15/03 12:16	326 mg/Kg
9912013467-012	FB-001	05/15/03 12:18	<0.044 mg/L

DATE RECEIVED: 05/19/03  
DATE ANALYZED: 05/30/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT

1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60783

PO: ---

PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE TWO

LAB NO.	IDENTIFICATION	RESULTS
9912013467-013	RF-212 HILL-BY 05/15/03 12:19	302 mg/Kg
9912013467-014	RF-210 ROOSEVELT-FY 05/15/03 12:53	134 mg/Kg
9912013467-015	RF-210 ROOSEVELT-BY 05/15/03 12:59	66.8 mg/Kg
9912013467-016	RF-213 WATSON-FY1 05/15/03 13:26	251 mg/Kg
9912013467-017	RF-213 WATSON-BY1 05/15/03 13:43	139 mg/Kg
9912013467-018	RF-213 WATSON-DZ 05/15/03 13:16	240 mg/Kg
9912013467-019	RF-213 WATSON-FY2 05/15/03 13:28	215 mg/Kg
9912013467-020	RF-213 WATSON-BY2 05/15/03 13:42	111 mg/Kg
9912013467-021	RF-213 WATSON-BY3 05/15/03 13:49	93.7 mg/Kg
9912013467-022	RF-213 WATSON-BY3-FD 05/15/03 13:49	118 mg/Kg
9912013467-023	FB-002 05/15/03 13:52	<0.044 mg/L
9912013467-024	RF-213 WATSON-BY4 05/15/03 13:47	304 mg/Kg

DATE RECEIVED: 05/19/03  
DATE ANALYZED: 05/30/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60783  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE THREE

LAB NO.	IDENTIFICATION		RESULTS
9912013467-025	RP-1437 GRAND-FY	05/15/03 15:00	16.3 mg/Kg
9912013467-026	RP-1437 GRAND-BY	05/15/03 15:10	22.6 mg/Kg
9912013467-027	RP-1430 MADISON-FY	05/15/03 15:41	240 mg/Kg
9912013467-028	RP-1430 MADISON-BY	05/15/03 15:43	14.0 mg/Kg
9912013467-029	RP-1430 MADISON-DZ	05/15/03 15:52	474 mg/Kg
9912013467-030	RP-161921 EDISON-FY	05/15/03 15:27	73.9 mg/Kg
9912013467-031	RP-161921 EDISON-BY	05/15/03 15:38	82.5 mg/Kg
9912013467-032	RP-161921 EDISON-DZ	05/15/03 15:42	1170 mg/Kg
9912013467-033	RP-1821 EDISON-FY	05/15/03 16:07	43.4 mg/Kg
9912013467-034	RP-1939 BENTON-FY	05/15/03 16:22	25.2 mg/Kg
9912013467-035	RP-1939 BENTON-BY	05/15/03 16:28	34.7 mg/Kg
9912013467-036	RP-1939 BENTON-DZ	05/15/03 16:30	137 mg/Kg

DATE RECEIVED: 05/19/03  
DATE ANALYZED: 05/30/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60783  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE FOUR

LAB NO.	IDENTIFICATION	RESULTS
9912013467-037	RP-1939 BENTON-FY-FD 05/15/03 16:22	29.8 mg/Kg
9912013467-038	FB-003 05/15/03 16:30	<0.044 mg/L
9912013467-039	RP-2220 ADMAMS-FY 05/15/03 16:53	45.0 mg/Kg
9912013467-040	RP-2220 ADMAMS-BY 05/15/03 16:56	46.4 mg/Kg
9912013467-041	RP-2220 ADMAMS-DZ 05/15/03 16:59	35.0 mg/Kg
9912013467-042	RP-2253 LEE-DZ 05/16/03 08:08	126 mg/Kg
9912013467-043	RP-2253 LEE-FY 05/16/03 08:12	240 mg/Kg
9912013467-044	RP-2253 LEE-BY 05/16/03 08:14	55.9 mg/Kg
9912013467-045	RP-2432 EDISON-BY 05/16/03 08:46	78.2 mg/Kg
9912013467-046	RP-2432 EDISON-FY 05/16/03 08:48	195 mg/Kg
9912013467-047	RP-2432 EDISON-FY-FD 05/16/03 08:48	140 mg/Kg
9912013467-048	FB-004 05/16/03 08:50	<0.044 mg/L

DATE RECEIVED: 05/19/03  
DATE ANALYZED: 05/30/03  
ANALYST: K.E.



# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60783  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE FIVE

LAB NO.	IDENTIFICATION		RESULTS
9912013467-049	RP-2432 EDISON-DZ	05/16/03 08:51	87.8 mg/Kg
9912013467-050	RP-2032 BRYAN-FY	05/16/03 09:14	52.8 mg/Kg
9912013467-051	RP-2032 BRYAN-BY	05/16/03 09:16	89.5 mg/Kg
9912013467-052	RP-2032 BRYAN-DZ	05/16/03 09:20	79.4 mg/Kg
9912013467-053	RP-2610 DENVER-FY	05/16/03 09:32	48.5 mg/Kg
9912013467-054	RP-2610 DENVER-BY	05/16/03 09:35	22.2 mg/Kg
9912013467-055	RP-2610 DENVER-DZ	05/16/03 09:37	78.0 mg/Kg
9912013467-056	RP-2701 CAYUGA-FY	05/16/03 09:52	71.9 mg/Kg
9912013467-057	RP-2701 CAYUGA-BY	05/16/03 09:54	155 mg/Kg
9912013467-058	RP-2701 CAYUGA-DZ	05/16/03 09:58	178 mg/Kg
9912013467-059	RP-2701 CAYUGA-DZ-FD	05/16/03 09:58	230 mg/Kg
9912013467-060	FB-005	05/16/03 09:59	<0.044 mg/L

DATE RECEIVED: 05/19/03  
DATE ANALYZED: 05/30/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60783  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE SIX

LAB NO.	IDENTIFICATION		RESULTS
9912013467-061	RP-1731 CHESTNUT-FY	05/16/03 10:15	886 mg/Kg
9912013467-062	RP-1731 CHESTNUT-BY	05/16/03 10:18	1090 mg/Kg
9912013467-063	RP-1731 CHESTNUT-DZ	05/16/03 10:20	831 mg/Kg
9912013467-064	RP-1200 STATE-BY	05/16/03 10:38	254 mg/Kg
9912013467-065	RP-1200 STATE-DZ	05/16/03 10:40	256 mg/Kg
9912013467-066	RP-1126 REYNOLDS-FY	05/16/03 10:57	21.7 mg/Kg
9912013467-067	RP-1126 REYNOLDS-BY	05/16/03 10:59	21.8 mg/Kg
9912013467-068	RP-1126 REYNOLDS-DZ	05/16/03 11:02	17.2 mg/Kg

DATE RECEIVED: 05/19/03  
DATE ANALYZED: 05/30/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60783  
PO #: ---  
PROJECT #: C-819

## QUALITY ASSURANCE QUALITY CONTROL REPORT

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE ICP/FAA (TOTAL LEAD)

SAMPLE ID: RF-213 WATSON-BY3  
LAB ID: 9912013467-021-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	93.7	200	294	100	291	99	1.50

SAMPLE ID: RP-1939 BENTON-BY  
LAB ID: 9912013467-035-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	34.7	200	217	91	218	92	0.50

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60783  
PO #: ---  
PROJECT #: C-819

## QUALITY ASSURANCE QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE  
ICP/FAA  
(TOTAL LEAD)

SAMPLE ID: RP-2432 EDISON-FY  
LAB ID: 9912013467-046-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	195	200	406	106	396	100	5.00

SAMPLE ID: RP-1126 REYNOLDS-DZ  
LAB ID: 9912013467-068-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	420	200	555	68	576	78	10.50

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Fax (314) 432-4977

June 10, 2003

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

Attn: CAROLINE PANICO

Enclosed you will find analytical reports for the samples described below:

Date Received: 05/29/03  
Chain of Custody Number: 18515  
Project No.: C-819  
P.O.: ---  
Environmetrics Laboratory Number: 9912/13575

I have reviewed the data generated by the laboratory and have found the data to conform to the applicable methods and QC criteria. Results are reported as received unless otherwise noted on the report. If you have any questions, please feel free to call me at (314) 432-0550.

Sincerely,

  
Elizabeth Ghafouri  
Project Manager

Enclosure: Invoice Number 60875

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This report contains 10 pages.



ENTACT  
1360 N. WOOD DALE RD., STE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60875  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB-449-18  
PREP. DATE: 06/04/03

ELEMENT	BLANK RESULT
LEAD	<0.040

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-18  
PREP. DATE: 06/04/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.03	103

ENTACT  
1360 N. WOOD DALE RD., STE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60875  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-19  
PREP. DATE: 06/04/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-19  
PREP. DATE: 06/04/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.03	103

ENTACT  
1360 N. WOOD DALE RD., STE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60875  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-20  
PREP. DATE: 06/04/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-20  
PREP. DATE: 06/04/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.01	101



# ENVIRONMETRICS

ENTACT

1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60875

PO: ---

PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE ONE

LAB NO.	IDENTIFICATION		RESULTS
9912013575-001	RP-1700 EDISON-FY	05/21/03 16:06	139 mg/Kg
9912013575-002	RP-1700 EDISON-BY	05/21/03 16:10	94.8 mg/Kg
9912013575-003	RP-1700 EDISON-BY-FD	05/21/03 16:10	95.6 mg/Kg
9912013575-004	FB-006	05/21/03 16:12	<0.044 mg/L
9912013575-005	RP-1438 GRAND-FY	05/21/03 16:38	17.0 mg/Kg
9912013575-006	RP-1438 GRAND-BY	05/21/03 16:42	30.3 mg/Kg
9912013575-007	RP-1227 MADISON-FY	05/21/03 17:25	10.0 mg/Kg
9912013575-008	RP-1227 MADISON-BY	05/21/03 17:28	10.0 mg/Kg
9912013575-009	RP-2032 WASHINGTON-FY	05/21/03 17:54	28.5 mg/Kg
9912013575-010	RP-2032 WASHINGTON-BY	05/21/03 17:55	41.0 mg/Kg
9912013575-011	RP-2059 CLEVELAND-BY	05/22/03 08:06	200 mg/Kg

DATE RECEIVED: 05/29/03  
DATE ANALYZED: 06/04/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60875  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE TWO

LAB NO.	IDENTIFICATION	RESULTS
9912013575-012	RP-2059 CLEVELAND-DZ 05/22/03 08:09	677 mg/Kg
9912013575-013	RP-2059 CLEVELAND-FY 05/22/03 08:12	469 mg/Kg
9912013575-014	RP-2021 CLEVELAND-FY 05/22/03 08:44	58.3 mg/Kg
9912013575-015	RP-2021 CLEVELAND-FY-FD 05/22/03 08:44	62.2 mg/Kg
9912013575-016	RP-2021 CLEVELAND-BY 05/22/03 08:47	57.0 mg/Kg
9912013575-017	RP-2021 CLEVELAND-DZ 05/22/03 08:49	133 mg/Kg
9912013575-018	FB-007 05/22/03 08:50	<0.044 mg/L
9912013575-019	RP-1748 MAPLE-FY 05/22/03 09:43	141 mg/Kg
9912013575-020	RP-1748 MAPLE-BY 05/22/03 09:46	61.2 mg/Kg
9912013575-021	RP-1733 MAPLE-FY 05/22/03 10:20	69.9 mg/Kg
9912013575-022	RP-1733 MAPLE-BY 05/22/03 10:23	82.3 mg/Kg

DATE RECEIVED: 05/29/03  
DATE ANALYZED: 06/04/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60875  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE THREE

LAB NO.	IDENTIFICATION		RESULTS
9912013575-023	RP-1733 MAPLE-DZ	05/22/03 10:25	105 mg/Kg
9912013575-024	RP-1726 CLEVELAND-FY	05/28/03 10:31	65.2 mg/Kg
9912013575-025	RP-1726 CLEVELAND-BY	05/28/03 10:35	58.7 mg/Kg
9912013575-026	RP-1726 CLEVELAND-DZ	05/28/03 10:40	99.8 mg/Kg
9912013575-027	RP-1726 CLEVELAND-DZ-FD	05/28/03 10:40	135 mg/Kg
9912013575-028	FB-008	05/28/03 10:43	<0.044 mg/L
9912013575-029	RP-2135 MISSOURI-FY	05/28/03 11:20	63.0 mg/Kg
9912013575-030	RP-2135 MISSOURI-DZ	05/28/03 11:25	83.3 mg/Kg
9912013575-031	RP-2220 OHIO-FY	05/28/03 11:53	170 mg/Kg
9912013575-032	RP-2220 OHIO-BY	05/28/03 11:56	196 mg/Kg
9912013575-033	RP-2220 OHIO-DZ	05/28/03 11:58	236 mg/Kg

DATE RECEIVED: 05/29/03  
DATE ANALYZED: 06/04/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT

1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60875

PO: ---

PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE FOUR

LAB NO.	IDENTIFICATION		RESULTS
9912013575-034	RP-2310 IOWA-FY	05/28/03 13:26	74.5 mg/Kg
9912013575-035	RP-2310 IOWA-BY	05/28/03 13:31	95.1 mg/Kg
9912013575-036	RP-2310 IOWA-DZ	05/28/03 13:33	165 mg/Kg
9912013575-037	RP-2103 MONROE-BY	05/28/03 13:58	37.9 mg/Kg
9912013575-038	RP-2103 MONROE-FY	05/28/03 14:02	57.7 mg/Kg
9912013575-039	RP-2103 MONROE-FY-FD	05/28/03 14:02	46.0 mg/Kg
9912013575-040	RP-2103 MONROE-DZ	05/28/03 14:05	133 mg/Kg
9912013575-041	FB-009	05/28/03 14:08	<0.044 mg/L
9912013575-042	RP-1233 MERIDIAN-FY	05/28/03 15:16	69.3 mg/Kg
9912013575-043	RP-1233 MERIDIAN-BY	05/28/03 15:20	75.2 mg/Kg
9912013575-044	RP-1233 MERIDIAN-DZ	05/28/03 15:23	124 mg/Kg

DATE RECEIVED: 05/29/03  
DATE ANALYZED: 06/04/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT

1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60875

PO: ---

PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE FIVE

LAB NO.	IDENTIFICATION		RESULTS
9912013575-045	RP-918 ALTON-FY	05/28/03 16:01	76.8 mg/Kg
9912013575-046	RP-918 ALTON-BY	05/28/03 16:06	103 mg/Kg
9912013575-047	RP-918 ALTON-DZ	05/28/03 16:09	198 mg/Kg
9912013575-048	RP-1014 IOWA-FY	05/28/03 16:38	110 mg/Kg
9912013575-049	RP-1014 IOWA-BY	05/28/03 16:43	73.1 mg/Kg
9912013575-050	RP-1014 IOWA-B4-FD	05/28/03 16:43	183 mg/Kg
9912013575-051	RP-1014 IOWA-DZ	05/28/03 16:48	98.3 mg/Kg
9912013575-052	FB-010	05/28/03 16:50	<0.044 mg/L

DATE RECEIVED: 05/29/03  
DATE ANALYZED: 06/04/03  
ANALYST: K.E.

• ENTACT  
1360 N. WOOD DALE RD., STE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60875  
PO #: ---  
PROJECT #: C-819

QUALITY ASSURANCE QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE  
ICP/FAA  
(TOTAL LEAD)

SAMPLE ID: RP-2021 CLEVELAND-FY  
LAB ID: 9912/13575-014

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	58.2	100	268	105	268	105	0.00

SAMPLE ID: RP-2103 MONROE-FY  
LAB ID: 9912/13575-038

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	57.7	100	262	102	241	92	21.00

SAMPLE ID: FB-009  
LAB ID: 9912/13575-041

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	<0.044	100	0.999	100	0.989	99	0.010

# ENVIRONMETRICS

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June 12, 2003

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

Attn: CAROLINE PANICO

Enclosed you will find analytical reports for the samples described below:

Date Received: 05/29/03  
Chain of Custody Number: 18518  
Project No.: C-819  
P.O.: ---  
Environmetrics Laboratory Number: 9912/13576

I have reviewed the data generated by the laboratory and have found the data to conform to the applicable methods and QC criteria. Results are reported as received unless otherwise noted on the report. If you have any questions, please feel free to call me at (314) 432-0550.

Sincerely,

  
Elizabeth Ghafoori  
Project Manager

Enclosure: Invoice Number 60893

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This report contains 5 pages.



Where Experience is the Difference

# ENVIRONMETRICS

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WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60893  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-21  
PREP. DATE: 06/05/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/l)

PREP. CODE: LCS 449-21  
PREP. DATE: 06/05/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.02	102



# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60893  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE ONE

LAB NO.	IDENTIFICATION		RESULTS
9912013576-001	RP-1416 WASHINGTON-FY	05/29/03 08:45	46.7 mg/Kg
9912013576-002	RP-1416 WASHINGTON-DZ	05/29/03 08:49	803 mg/Kg
9912013576-003	RP-703 WASHINGTON-FY	05/29/03 09:21	84.2 mg/Kg
9912013576-004	RP-703 WASHINGTON-BY	05/29/03 09:25	67.3 mg/Kg
9912013576-005	RP-703 WASHINGTON-DZ	05/29/03 09:27	666 mg/Kg
9912013576-006	RP-1316 IOWA-FY	05/29/03 10:12	118 mg/Kg
9912013576-007	RP-1316 IOWA-BY	05/29/03 10:16	137 mg/Kg

DATE RECEIVED: 05/29/03  
DATE ANALYZED: 06/05/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60893  
PO #: ---  
PROJECT #: C-819

## QUALITY ASSURANCE QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE  
ICP/FAA  
(TOTAL LEAD)

SAMPLE ID: FP-901 GRAND-BY  
LAB ID: 9912013576-010-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	271	200	498	114	462	96	18.00

# ENVIRONMETRICS

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St. Louis, MO 63146

(314) 432-0550  
Fax (314) 432-4977

June 12, 2003

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

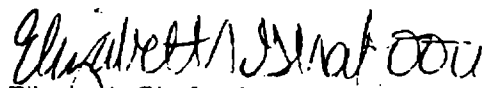
Attn: CAROLINE PANICO

Enclosed you will find analytical reports for the samples described below:

Date Received: 06/02/03  
Chain of Custody Number: 18519  
Project No.: C-819  
P.O.: ---  
Environmetrics Laboratory Number: 9912/13605

I have reviewed the data generated by the laboratory and have found the data to conform to the applicable methods and QC criteria. Results are reported as received unless otherwise noted on the report. If you have any questions, please feel free to call me at (314) 432-0550.

Sincerely,



Elizabeth Ghaffoori  
Project Manager

Enclosure: Invoice Number 60907

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# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60907  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-23  
PREP. DATE: 06/09/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-23  
PREP. DATE: 06/05/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	0.979	98

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60907  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-24  
PREP. DATE: 06/09/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-24  
PREP. DATE: 06/09/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.06	106

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60907  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE ONE

LAB NO.	IDENTIFICATION		RESULTS
9912013605-001	RP-2204 GRAND-FY	05/29/03 15:39	41.7 mg/Kg
9912013605-002	RP-2204 GRAND-BY	05/29/03 15:45	21.4 mg/Kg
9912013605-003	RP-2204 GRAND-DZ	05/29/03 15:48	45.8 mg/Kg
9912013605-004	RP-2153 EDISON-FY	05/29/03 16:15	22.0 mg/Kg
9912013605-005	RP-2153 EDISON-BY	05/29/03 16:19	23.7 mg/Kg
9912013605-006	RP-2153 EDISON-DZ	05/29/03 16:21	191 mg/Kg
9912013605-007	RP-2323 CLEVELAND-FY	05/29/03 16:43	50.7 mg/Kg
9912013605-008	RP-2323 CLEVELAND-BY	05/29/03 16:47	80.4 mg/Kg
9912013605-009	RP-2323 CLEVELAND-DZ	05/29/03 16:50	153 mg/Kg
9912013605-010	RP-1633 DELMAR-FY	05/29/03 17:22	51.6 mg/Kg
9912013605-011	RP-1633 DELMAR-FY-FD	05/29/03 17:22	61.0 mg/Kg

DATE RECEIVED: 06/02/03  
DATE ANALYZED: 06/09/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60907  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE TWO

LAB NO.	IDENTIFICATION	RESULTS
9912013605-012	RP-1633 DELMAR-BY 05/29/03 17:27	50.3 mg/Kg
9912013605-013	RP-1633 DELMAR-DZ 05/29/03 17:30	29.3 mg/Kg
9912013605-014	FB-012 05/29/03 17:33	<0.040 mg/L
9912013605-015	RP-1420 MADISON-FY 05/29/03 18:13	130 mg/Kg
9912013605-016	RP-1420 MADISON-BY 05/29/03 18:18	103 mg/Kg
9912013605-017	RP-1420 MADISON-DZ 05/29/03 18:23	122 mg/Kg
9912013605-018	RP-619-21 MEREDOCIA-FY 05/30/03 08:22	84.0 mg/Kg
9912013605-019	RP-619-21 MEREDOCIA-BY 05/30/03 08:25	91.9 mg/Kg
9912013605-020	RP-619-21 MEREDOCIA-DZ 05/30/03 08:30	138 mg/Kg
9912013605-021	RP-547 MEREDOCIA-FY 05/30/03 08:43	54.1 mg/Kg
9912013605-022	RP-547 MEREDOCIA-BY 05/30/03 08:46	21.2 mg/Kg

DATE RECEIVED: 06/02/03  
DATE ANALYZED: 06/09/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60907  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE THREE

LAB NO.	IDENTIFICATION		RESULTS
9912013605-023	RP-547 MEREDOCIA-BY-FD	05/30/03 08:46	20.4 mg/Kg
9912013605-024	RP-547 MEREDOCIA-BY-DZ	05/30/03 08:48	96.1 mg/Kg
9912013605-025	FB-013	05/30/03 08:52	<0.044 mg/L
9912013605-026	RP-1827 SPRUCE-FY	05/30/03 09:24	104 mg/Kg
9912013605-027	RP-1827 SPRUCE-BY	05/30/03 09:27	142 mg/Kg
9912013605-028	RP-1827 SPRUCE-DZ	05/30/03 09:31	63.1 mg/Kg
9912013605-029	RP-1748 POPLAR-FY	05/30/03 09:52	12.4 mg/Kg
9912013605-030	RP-1748 POPLAR-BY	05/30/03 09:56	15.0 mg/Kg
9912013605-031	RP-1748 POPLAR-DZ	05/30/03 09:58	12.1 mg/Kg
9912013605-032	RP-1821 MADISON-FY	05/30/03 10:27	311 mg/Kg
9912013605-033	RP-1821 MADISON-BY	05/30/03 10:30	122 mg/Kg

DATE RECEIVED: 06/02/03  
DATE ANALYZED: 06/09/03  
ANALYST: K.E.



# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE RD., SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE: 60907  
PO: ---  
PROJECT #: C-819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE FOUR

LAB NO.	IDENTIFICATION		RESULTS
9912013605-034	RP-1821 MADISON-DZ	05/30/03 10:34	145 mg/Kg
9912013605-035	RP-1821 MADISON-DZ- FD	05/30/03 10:34	149 mg/Kg
9912013605-036	RP-2039 STATE-FY	05/30/03 11:41	36.6 mg/Kg
9912013605-037	RP-2039 STATE-BY	05/30/03 11:46	41.0 mg/Kg
9912013605-038	RP-2039 STATE-DZ	05/30/03 11:52	295 mg/Kg
9912013605-039	FB-014	05/30/03 11:41	<0.044 mg/L

DATE RECEIVED: 06/02/03  
DATE ANALYZED: 06/09/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1360 N. WOOD DALE ROAD, SUITE A  
WOOD DALE, IL 60191

ATTN: CAROLINE PANICO

INVOICE #: 60907  
PO #: ---  
PROJECT #: C-819

## QUALITY ASSURANCE QUALITY CONTROL REPORT

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE ICP/FAA (TOTAL LEAD)

SAMPLE ID: RP-619-21 MEREDOCIA-DZ  
LAB ID: 9912013605-020-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	138	200	398	130	353	108	22.50

SAMPLE ID: RP-547 MEREDOCIA-FY  
LAB ID: 9912013605-021-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	54.1	200	238	92	244	95	3.00

# ENVIRONMETRICS

www.environmetrics.net

11401 Moog Drive  
St. Louis, MO 63146

(314) 432-0550  
Fax (314) 432-4977

July 1, 2003

ENTACT  
1010 EXECUTIVE CT., SUITE 280  
WESTMONT, IL 60559


Attn: CAROLINE PANICO

Enclosed you will find analytical reports for the samples described below:

Date Received: 06/25/03  
Chain of Custody Number: 18522  
Project No.: C819  
P.O.: ---  
Environmetrics Laboratory Number: 9912/13869

I have reviewed the data generated by the laboratory and have found the data to conform to the applicable methods and QC criteria. Results are reported as received unless otherwise noted on the report. If you have any questions, please feel free to call me at (314) 432-0550.

Sincerely,

  
Elizabeth Ghafoori  
Project Manager

Enclosure: Invoice Number 61085

This report shall not be reproduced, except in full, without the written approval of Environmetrics.

This report contains 4 pages.



Where Experience is the Difference

# ENVIRONMETRICS

ENTACT  
1010 EXECUTIVE CT., SUITE 280  
WESTMONT, IL 60559

ATTN: CAROLINE PANICO

INVOICE #: 61085  
PO #: ---  
PROJECT #: C-819

PREPARATION BLANK  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: PB 449-37  
PREP. DATE: 06/27/03

ELEMENT	BLANK RESULT
LEAD	<0.044

LABORATORY CONTROL SAMPLE  
ICP/FAA  
(UNITS = mg/L)

PREP. CODE: LCS 449-37  
PREP. DATE: 06/27/03

ELEMENT	VALUE	RESULT	PERCENT RECOVERY
LEAD	1.00	1.14	114

# ENVIRONMETRICS

ENTACT  
1010 EXECUTIVE CT., SUITE 280  
WESTMONT, IL 60559

ATTN: CAROLINE PANICO

INVOICE: 61085  
PO: ---  
PROJECT #: C819

## ANALYSIS RESULTS

TOTAL LEAD  
METHOD SW-846 6010B

PAGE ONE

LAB NO.	IDENTIFICATION	RESULTS
✓ 9912013869-001	RP-1443 GROUND-FY 06/24/03 10:20	54.4 mg/Kg
✓ 9912013869-002	RP-1443 GROUND-BY 06/24/03 10:26	108 mg/Kg
✓ 9912013869-003	RP-1443 GROUND-DZ 06/24/03 10:31	355 mg/Kg
✓ 9912013869-004	RP-1732 CHESTNUT-FY 06/24/03 11:06	52.6 mg/Kg
✓ 9912013869-005	RP-1732 CHESTNUT-BY 06/24/03 11:11	70.8 mg/Kg
✓ 9912013869-006	RP-1732 CHESTNUT-DZ 06/24/03 11:14	173 mg/Kg
✓ 9912013869-007	RP-1641 DELMAR-FY 06/24/03 11:39	59.2 mg/Kg
✓ 9912013869-008	RP-1641 DELMAR-BY 06/24/03 11:43	52.1 mg/Kg
✓ 9912013869-009	RP-1641 DELMAR-DZ 06/24/03 11:48	453 mg/Kg
✓ 9912013869-010	RP-1429 MADISON-FY 06/24/03 12:05	82.6 mg/Kg
✓ 9912013869-011	RP-1429 MADISON-FY-FD 06/24/03 12:05	99.1 mg/Kg
✓ 9912013869-012	RP-1429 MADISON-BY 06/24/03 12:08	129 mg/Kg
✓ 9912013869-013	RP-1429 MADISON-DZ 06/24/03 12:11	82.5 mg/Kg
✓ 9912013869-014	FIELD BLANK-015 06/24/03 12:06	<0.044 mg/L

DATE RECEIVED: 06/25/03  
DATE ANALYZED: 06/27/03  
ANALYST: K.E.

# ENVIRONMETRICS

ENTACT  
1010 EXECUTIVE CT., SUITE 280  
WESTMONT, IL 60559

ATTN: CAROLINE PANICO

INVOICE #: 61085  
PO #: ---  
PROJECT #: C-819

## QUALITY ASSURANCE QUALITY CONTROL REPORT

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE ICP/FAA (TOTAL LEAD)

SAMPLE ID: RP-1443 GROUND-FY  
LAB ID: 9912013869-001-01

ELEMENT	SAMPLE RESULT (mg/kg)	SPIKE LEVEL (mg/kg)	SPIKE RESULT (mg/kg)	% REC.	DUPLICATE RESULT (mg/kg)	% REC.	RPD
LEAD	54.4	200	263	104	257	101	2.3



ENTACT

Appendix



Date: 5-15-2003

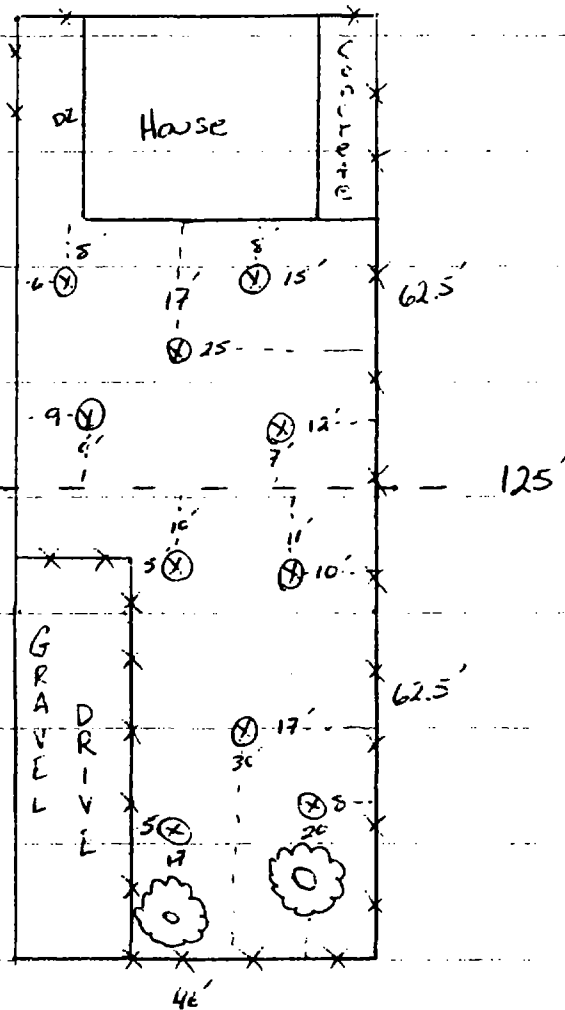
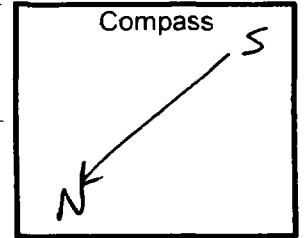
Property Owner: Sandra Rogers

Address: 2229 Adams

Granite City IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCard



⊗ = tree

\* = fence

5750 SF

Adams

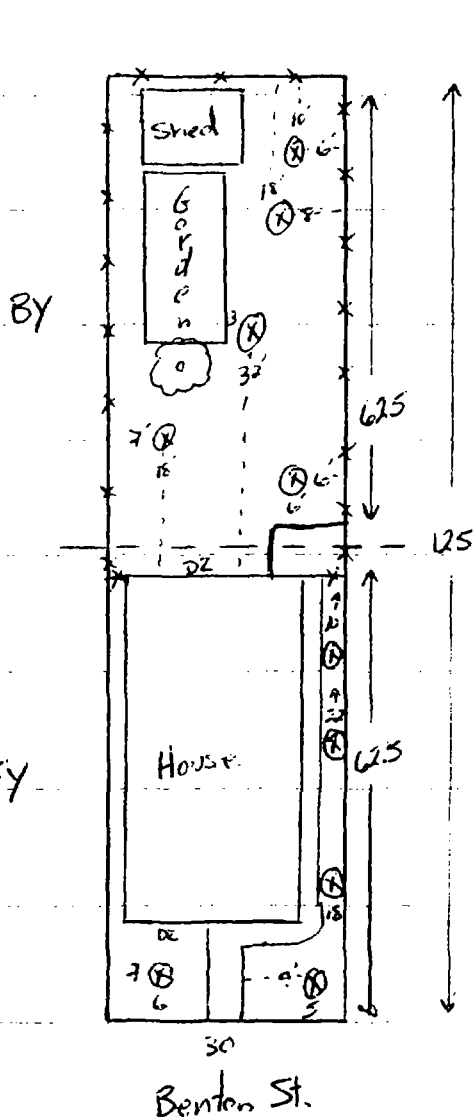
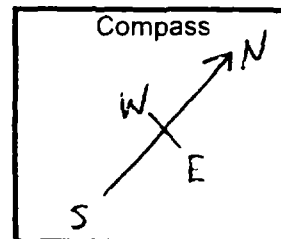




Date: 5-15-03  
Property Owner: Virginia Creasy  
Address: 1939 Benton  
Granite City IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord





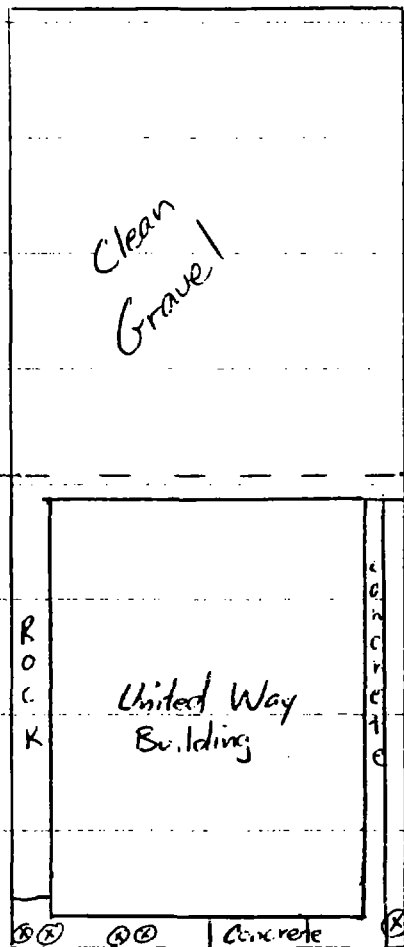
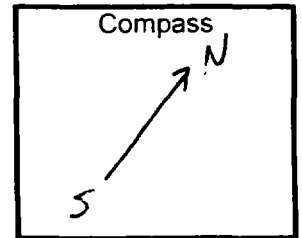
Date: 5-15-03

Property Owner: United Way

Address: 1221 Edison St.  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord



6250 SF

125'

50'  
Edison St.



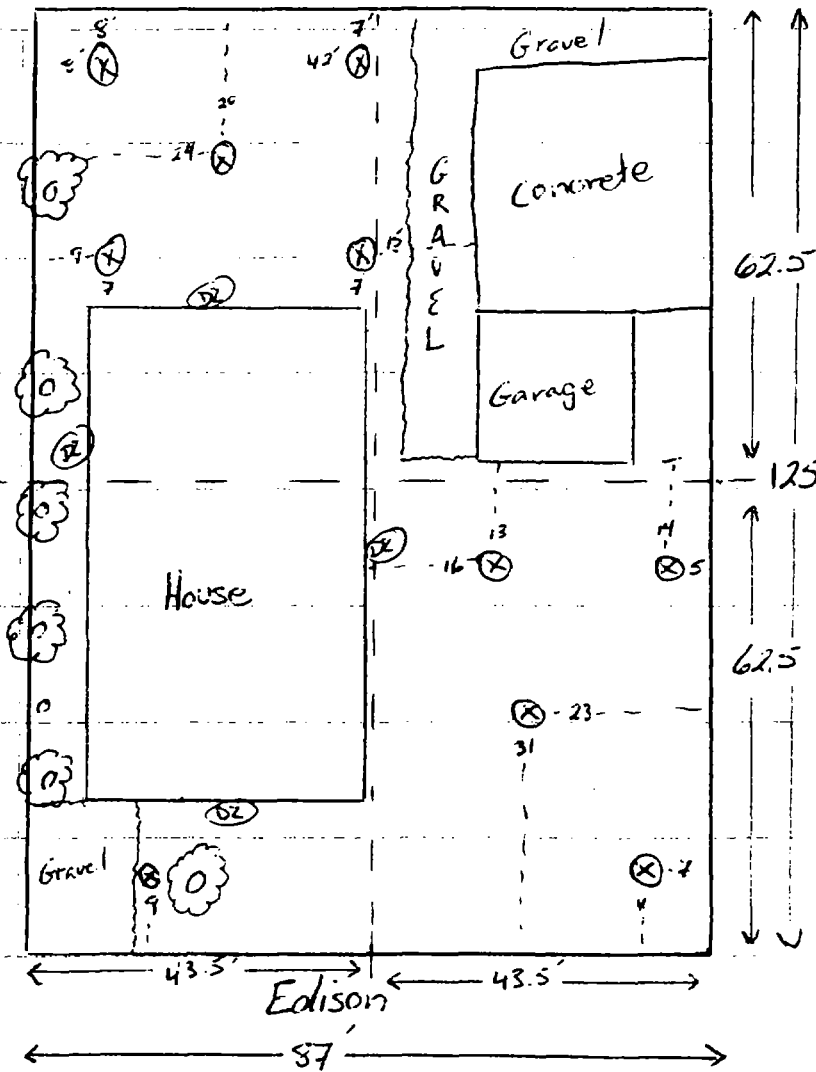
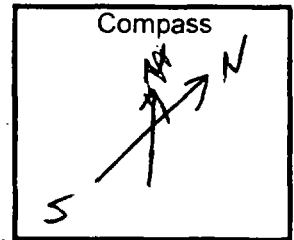
Date: 5-15-03

Property Owner: Don Connor

Address: 1619-21 Edison  
Granite City IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McLORD



tree

10,875 SF



Date: 5-15-03

Property Owner: Dorothy Jackson

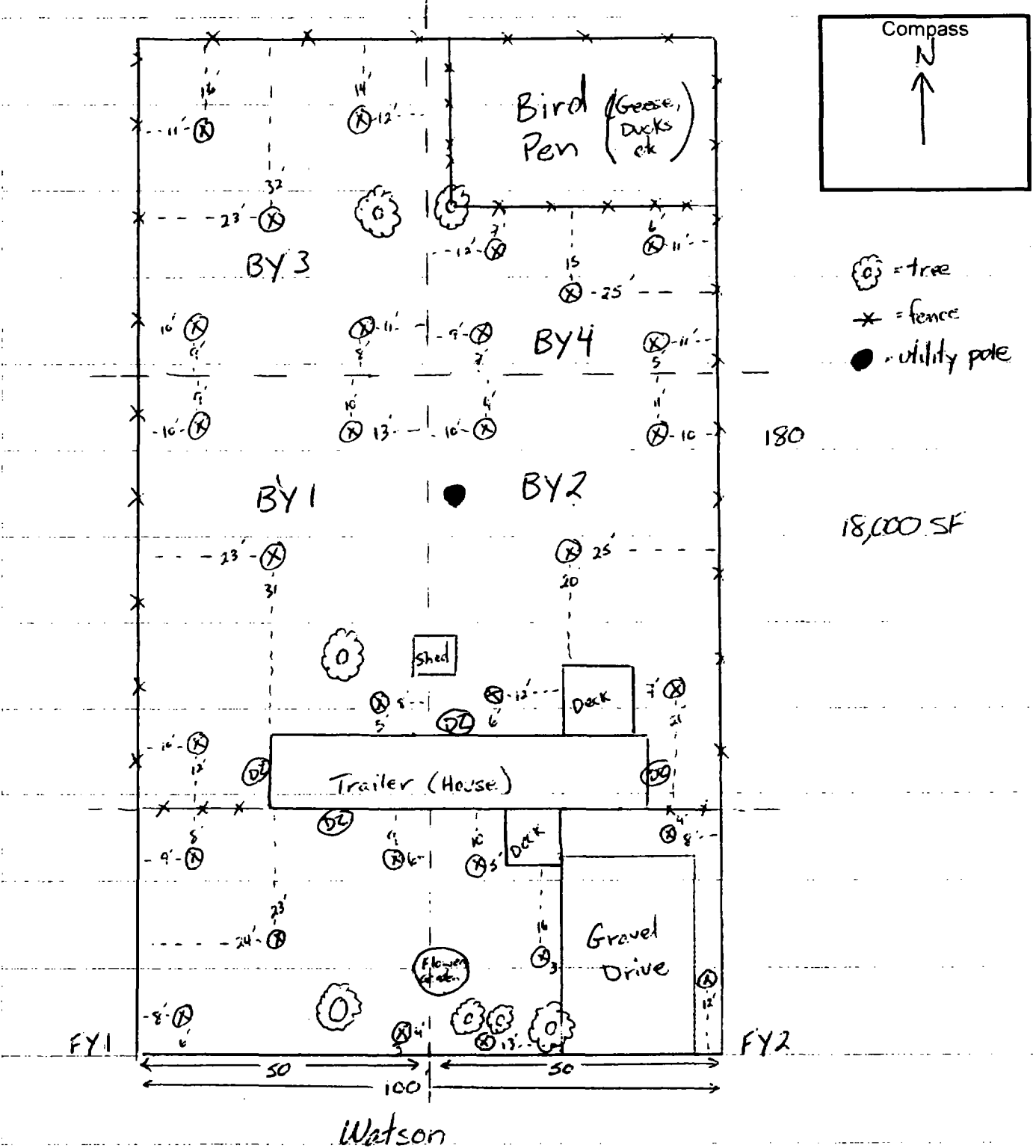
Address: 213 Watson

Granite City, IL

Remote Fill Lot

Log Person: McCard

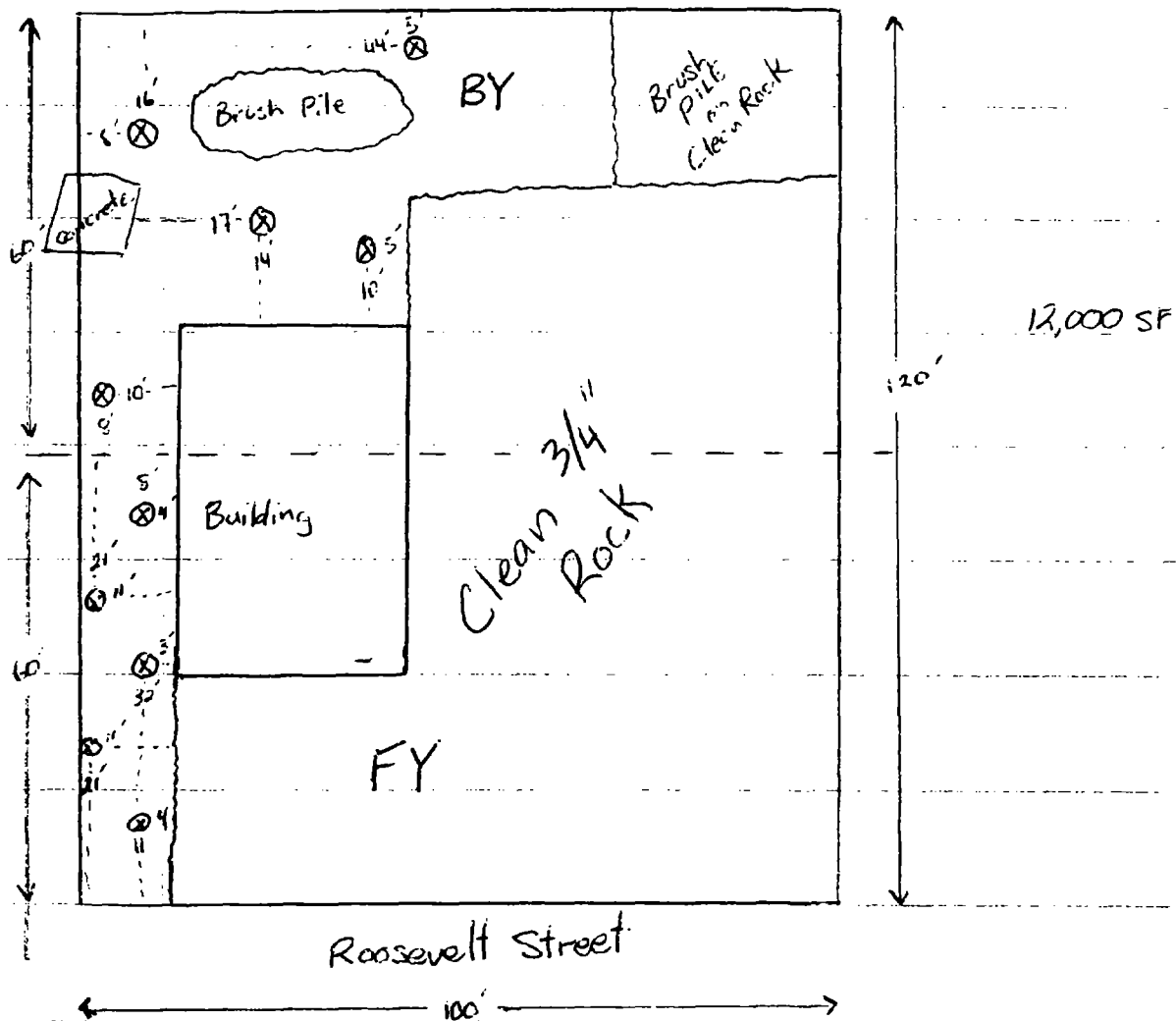
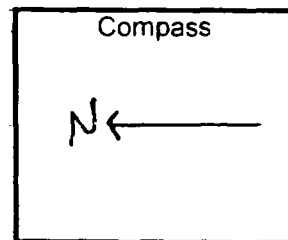
Project ID: C819-NL Industries/Taracorp Superfund Site





Project ID: C819-NL Industries/Taracorp Superfund Site

Date: 5-15-2003  
Property Owner: Eddie Salmond  
Address: 2102 Roosevelt  
Granite City, IL  
Remote Fill Lot  
Log Person: McCord







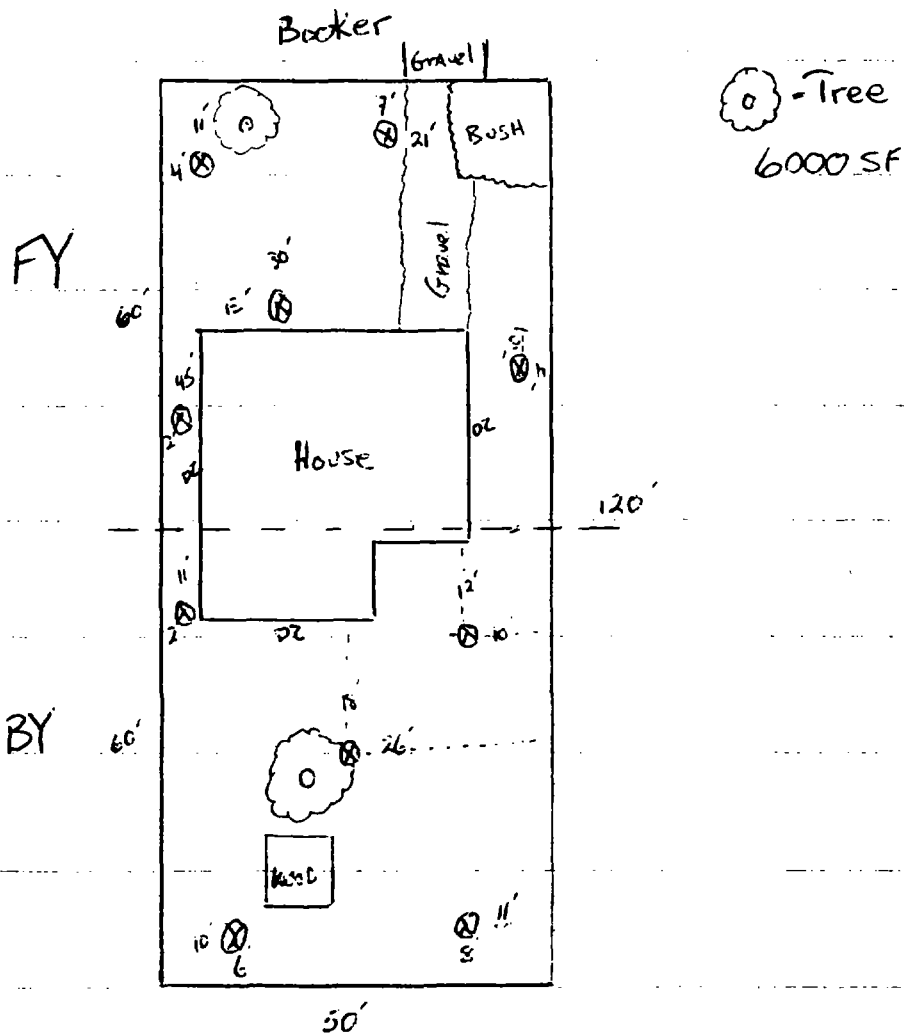
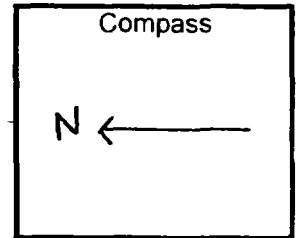
Date: 5-15-2003

Property Owner: Verla Arnold

Address: 115 Booker  
Granite City, IL  
Remote Fill Lot

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord



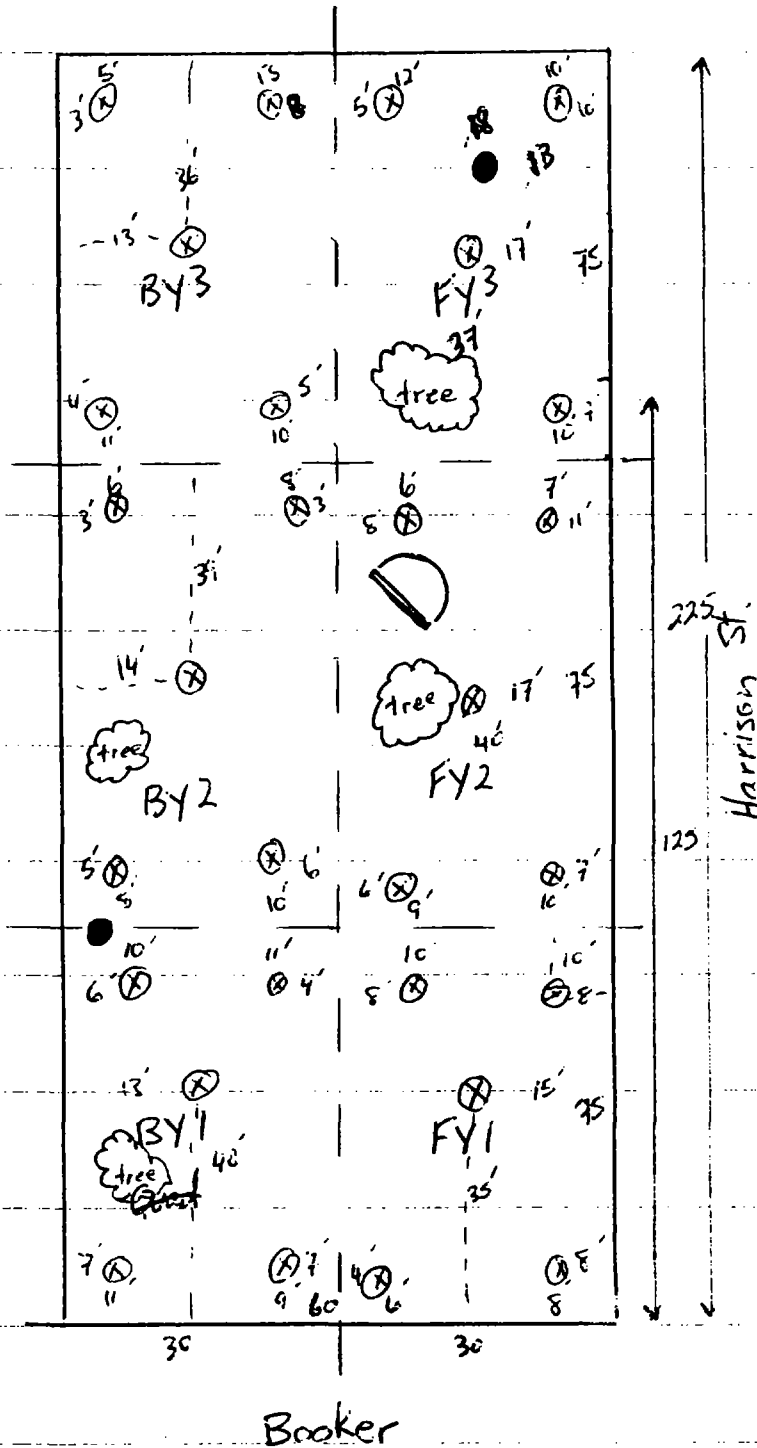
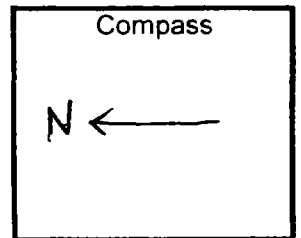


Date: 5-15-2003

Property Owner: Sarah Page  
Address: 91 Harrison St.  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord



● = utility pole  
⊗ = Eagle Park Sign  
13,500 SF





Date: 05/15/03

Property Owner:

Julia Fuzessery

Address:

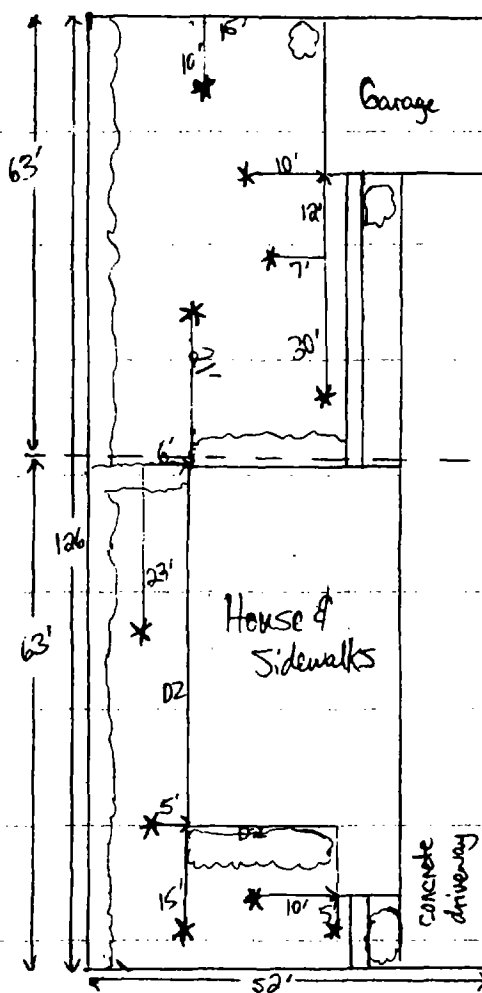
1430 Madison  
Madison, Illinois

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

ALCORN

Compass



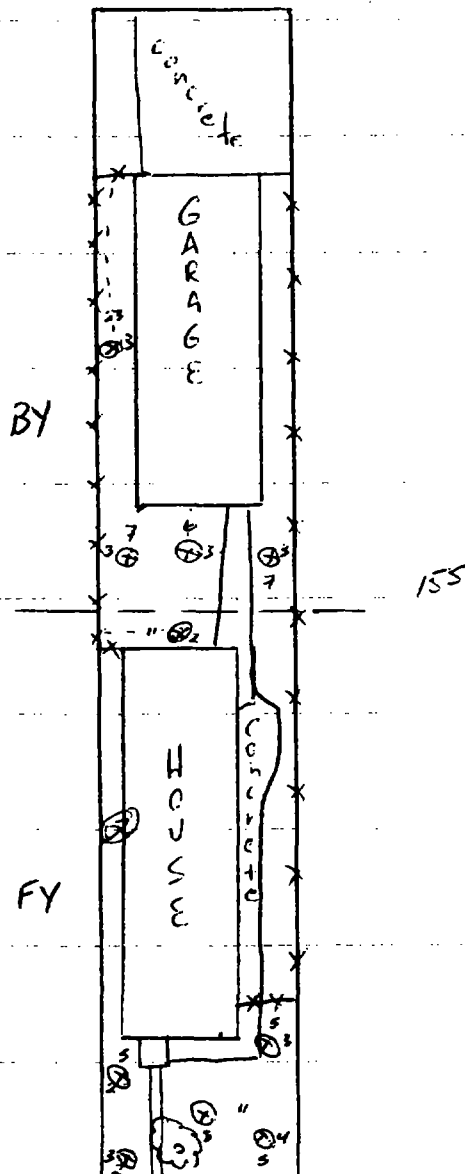
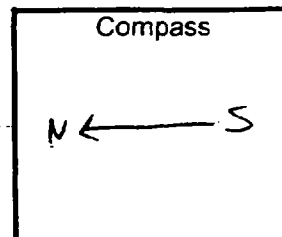
Madison



Date: 5-16-03  
Property Owner: Samantha Strubberg  
Address: 1126 Reynolds St.  
Granite City IL

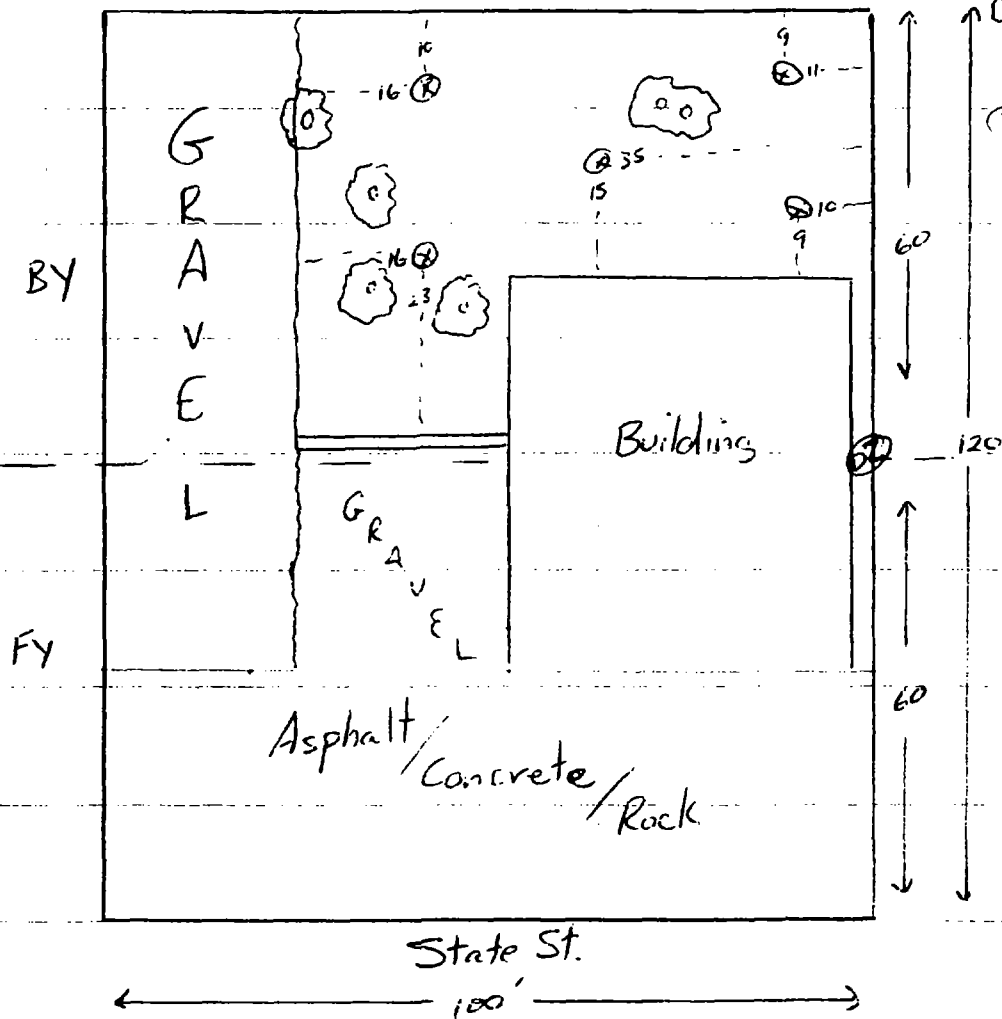
Project ID: C819-NL Industries/Taracorp Superfund Site

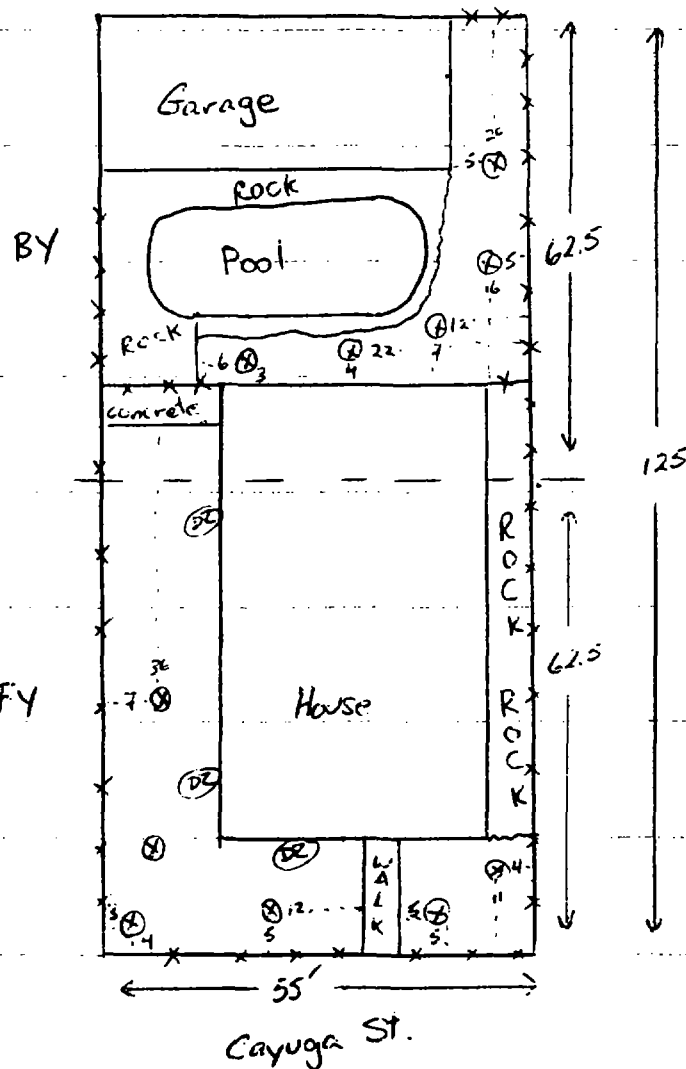
Log Person: McCord

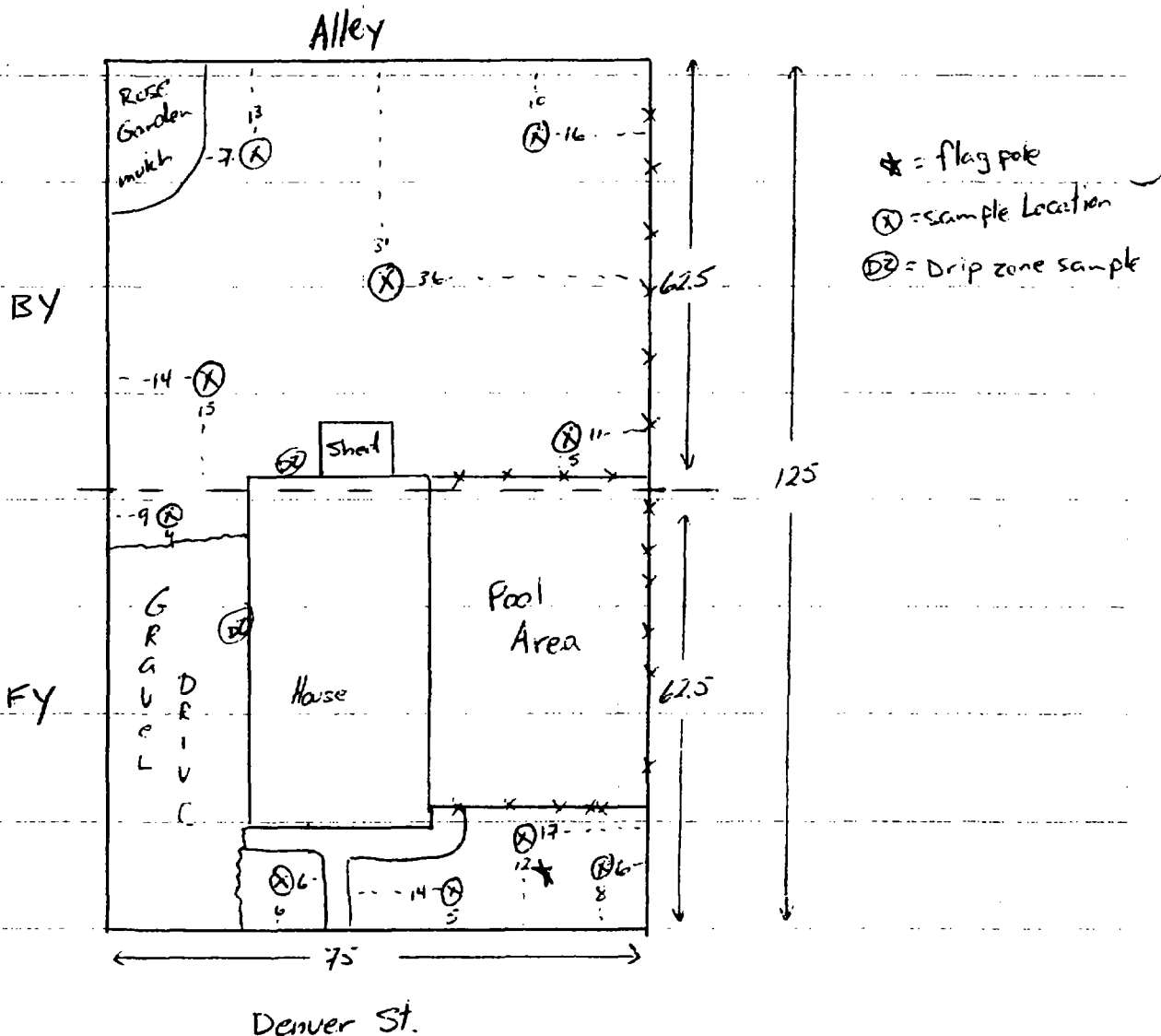


- ☁ = tree
- ⊗ = sample location
- ⊙ = Drip Zone Sample

Reynolds  
25





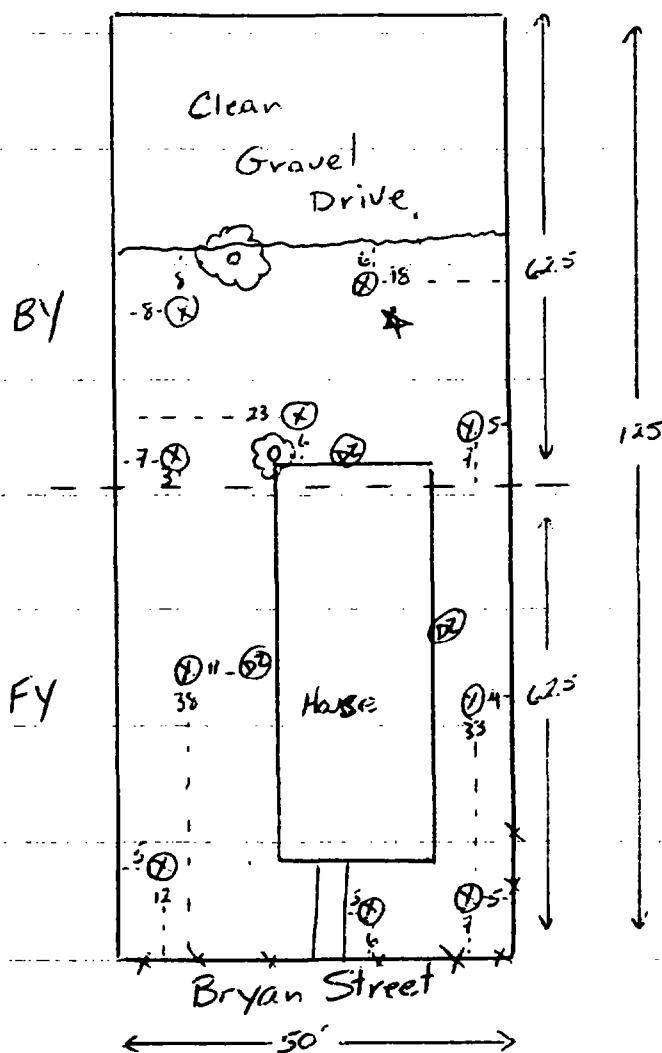
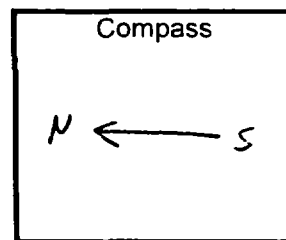




Date: 5-16-03  
Property Owner: Linda Reinhardt  
Address: 2032 Bryan  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord



- \* = satellite dist.
- ☁ = tree
- ⊙ = sample location
- ⊙• = drip zone sample



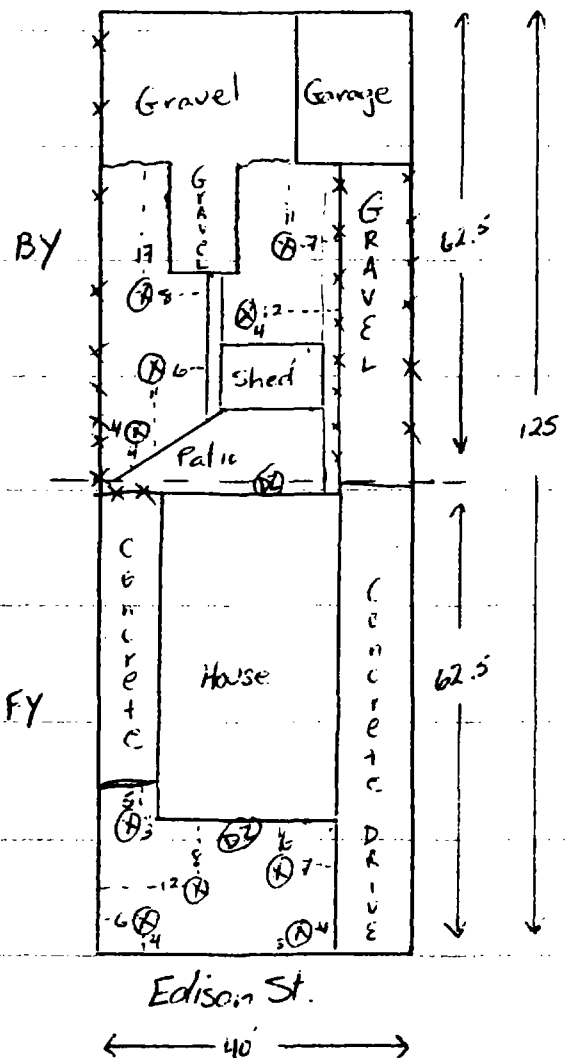
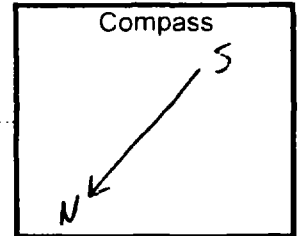
Date: 5-16-03

Property Owner: Betty Reid

Address: 2432 Edison St.  
Granite City IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord



\* = fence

⊗ = sample location



ENTACT

Date: 5-16-03

Property Owner:

Curtis Howland

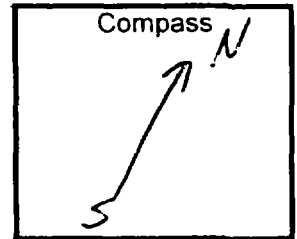
Address:

2253 Lee Street  
Granite City IL

Project ID: C819-NL Industries/Taracorp Superfund Site

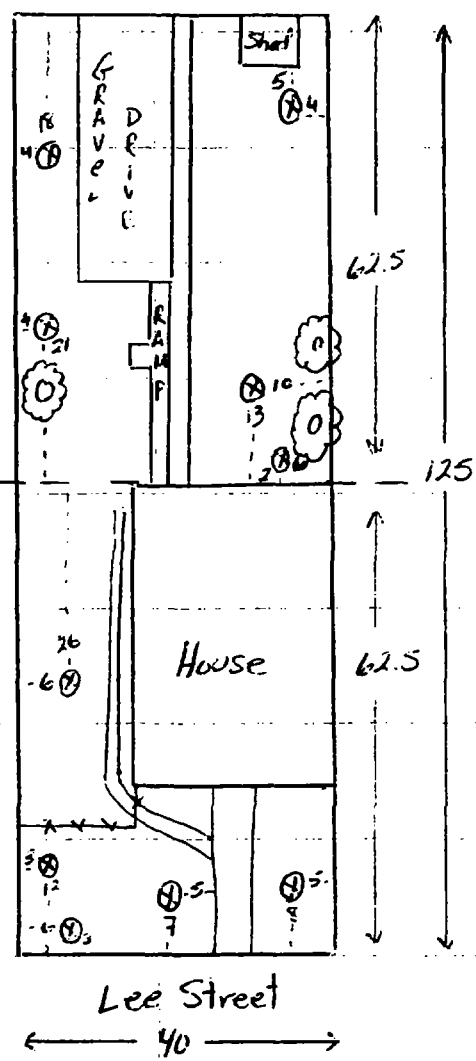
Log Person:

Melrod



BY

FY



tree

\* = fence

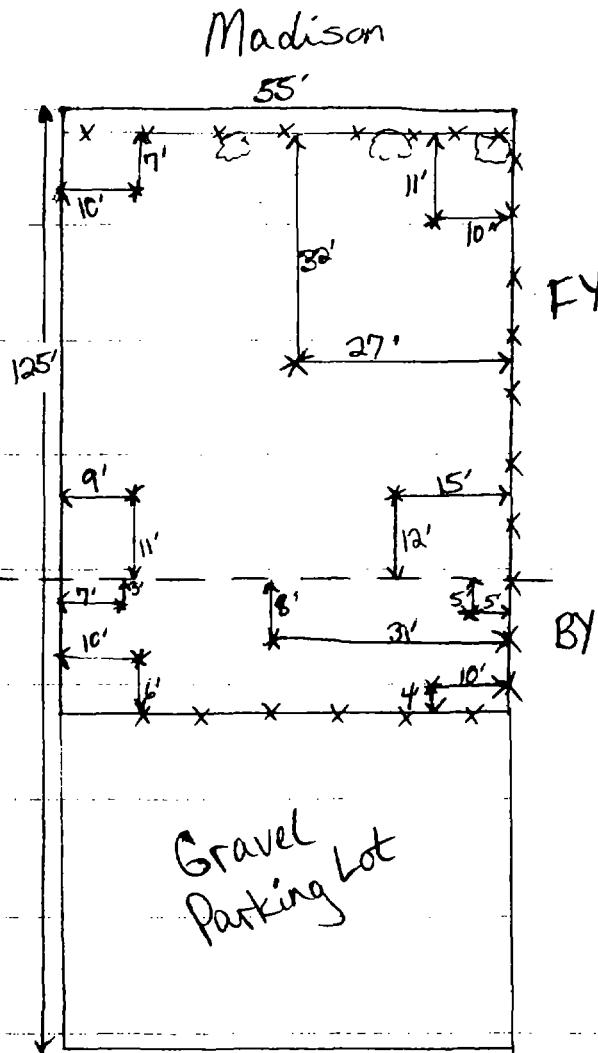
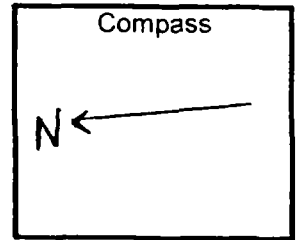




Date: 05-21-03  
Property Owner: Judy Moss  
Address: 1227 Madison  
Madison, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ALCORN



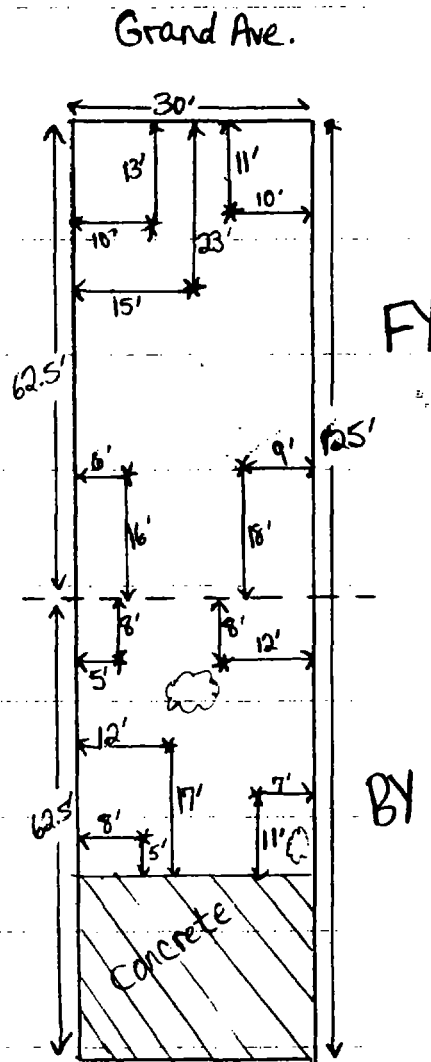
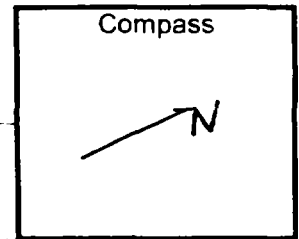
\* Sample Locations  
X Fence  
O Tree



Date: 05-21-03  
Property Owner: Anna Mokri  
Address: 1438 Grand Ave.  
Madison, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ALCORN



\* Sample Locations  
☁ Tree



Date: 05-21-03

Property Owner:

WALTER Leimer

Address:

1700 Edison  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

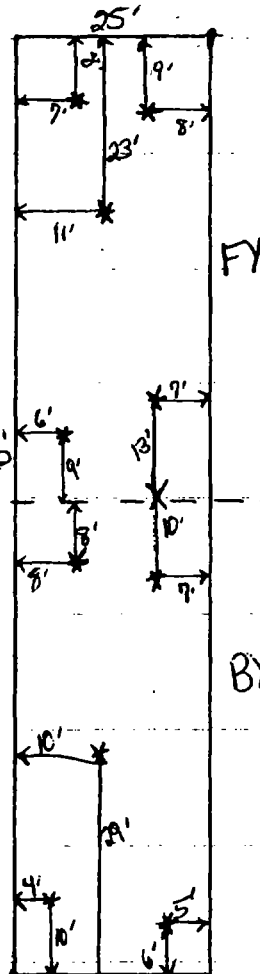
ALCORN

Compass



Edison St.

17th St.





Date: 05-21-03

Property Owner:

Gene Hoffman

Address:

2032 Washington

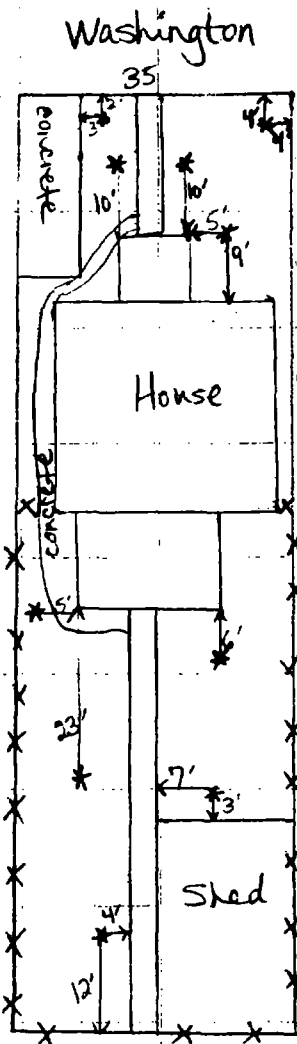
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

ALCORN

Compass



\* Sample Locations  
X Fence



Date: 05-22-03

Property Owner: Alfonso Martinez

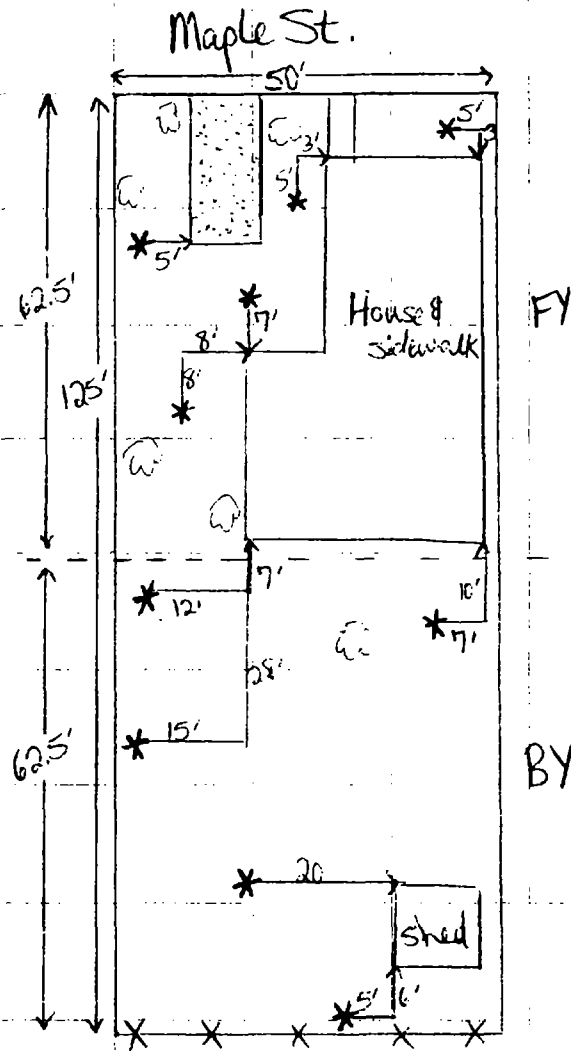
Address: 1748 Maple  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ALCORN

Compass

→ N



\* Sample Locations  
○ Tree  
○ Gravel Driveway  
\* \* Fence

- \* Sample Locations  
 \*\* Fence  
 ○ Tree  
 /// Concrete  
 . . . Gravel

Note: Entire Front Yard is Landscaped with plants/flowers (heavily).



Date: 05-22-03

Property Owner: Mike Wheatley

Address: 1733 Maple St.

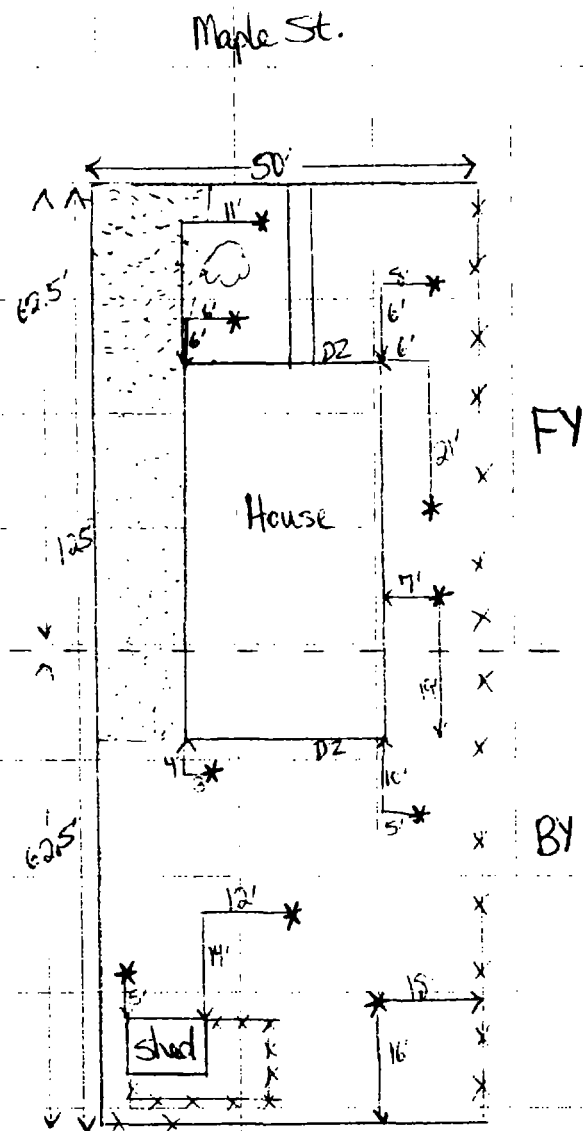
Granite City, IL

Project ID: C819-NL Industries/Teracorp Superfund Site

Log Person: ALCORN

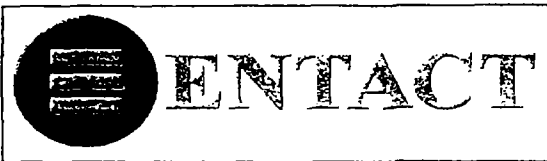
Compass

N ←



- \* Sample Locations
- Tree
- - - Gravel Driveway
- XX Fence





Date: 05-28-03

Property Owner:

Frank Eckhardt

Address:

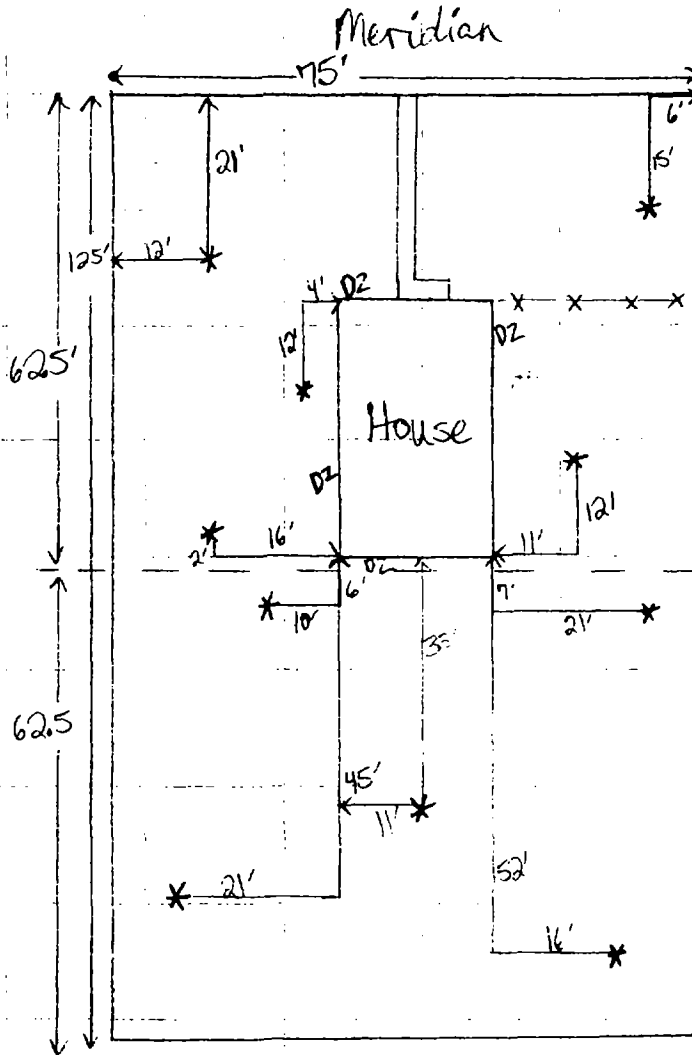
1233 Meridian  
Madison, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

Alcorn

Compass



\* Sample Locations

x x Fence



Date: 05-28-03

Property Owner: Russ Cozart

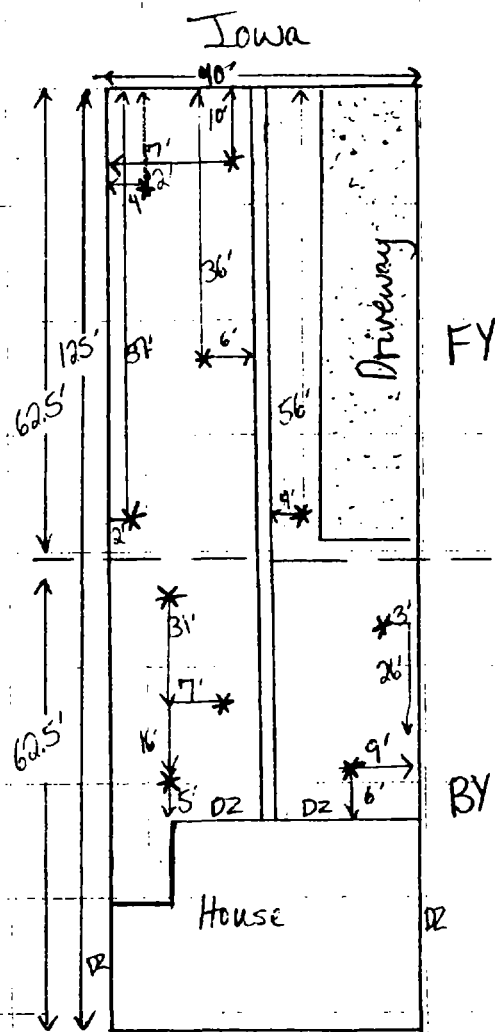
Address: 2310 Iowa Street  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

ALCORN

Compass



\* Sample Locations  
Gravel



Date: 05-28-03

Property Owner:

Kerry Scrum

Address:

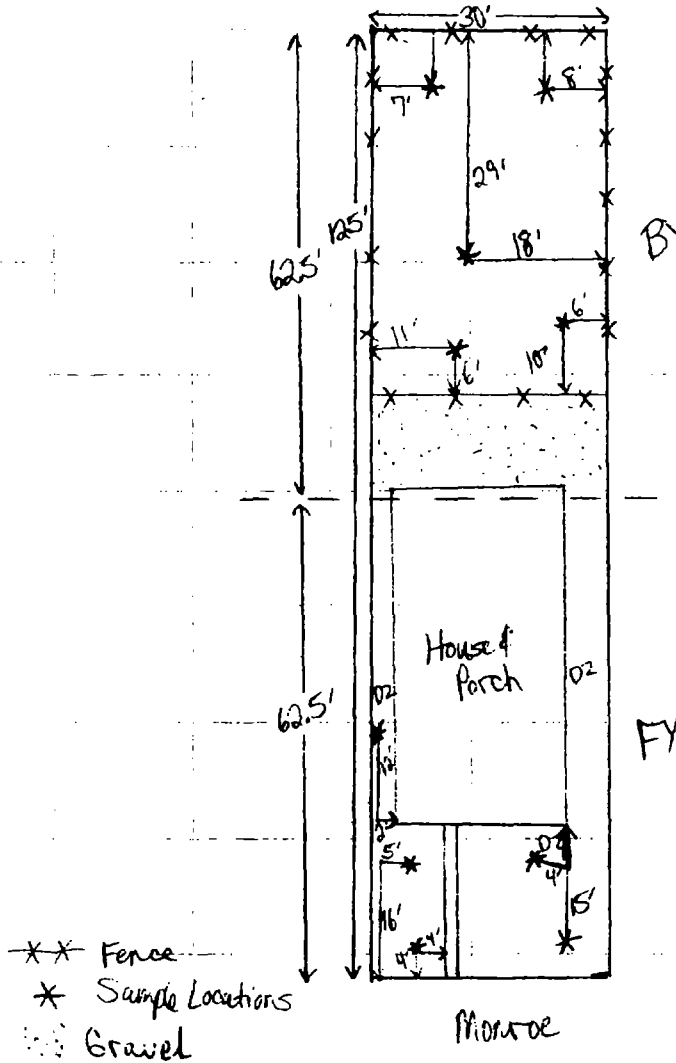
2103 Monroe  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

Alcorn

Compass





Date: 05-28-03

Property Owner:

Patricia Wells

Address: 2220 Ohio

Granite City, IL

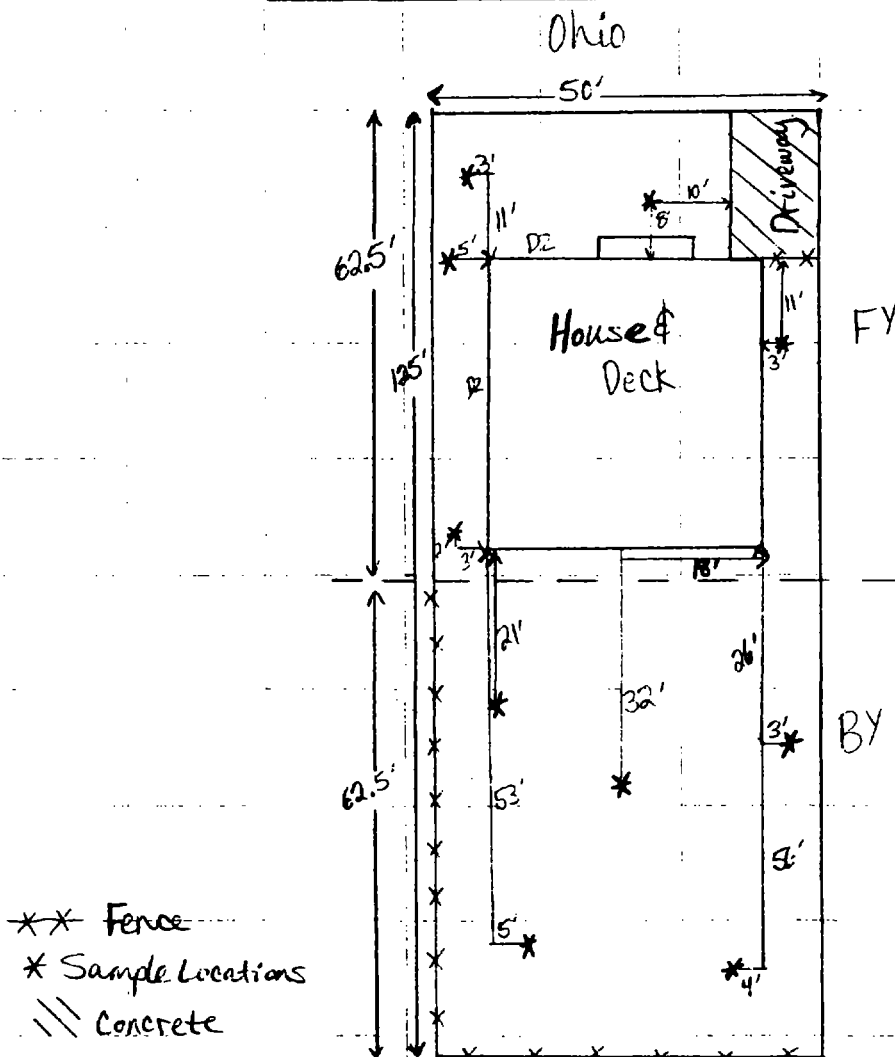
Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

Alcorn

Compass

N  
↑





Date: 05-28-03

Property Owner:

John Crane

Address:

2135 Missouri

Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

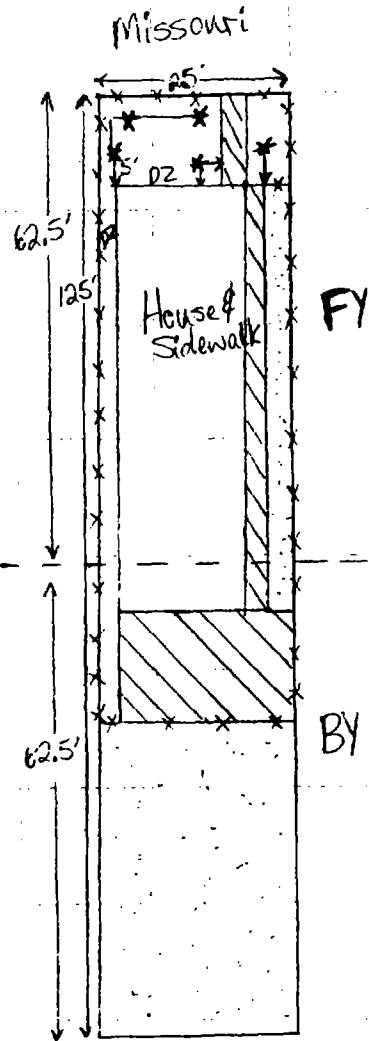
Log Person:

ALCORN

Compass

N ←

- \* Sample Locations
- \*\* Fence
- /// Concrete
- ... gravel



\* No BY sample taken due to gravel/rock



Date: 05-28-03

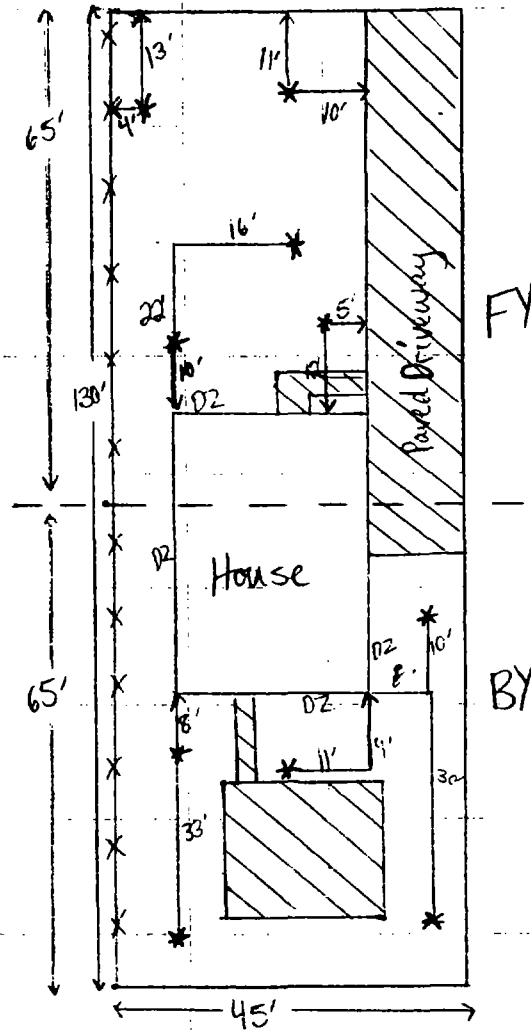
Property Owner: Marian Barton

Address: 1726 Cleveland  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ACCORN

Compass



\*\* Fence  
\* Sample Locations  
// Concrete



Date: 05-28-03

Property Owner: Sophia Kraus

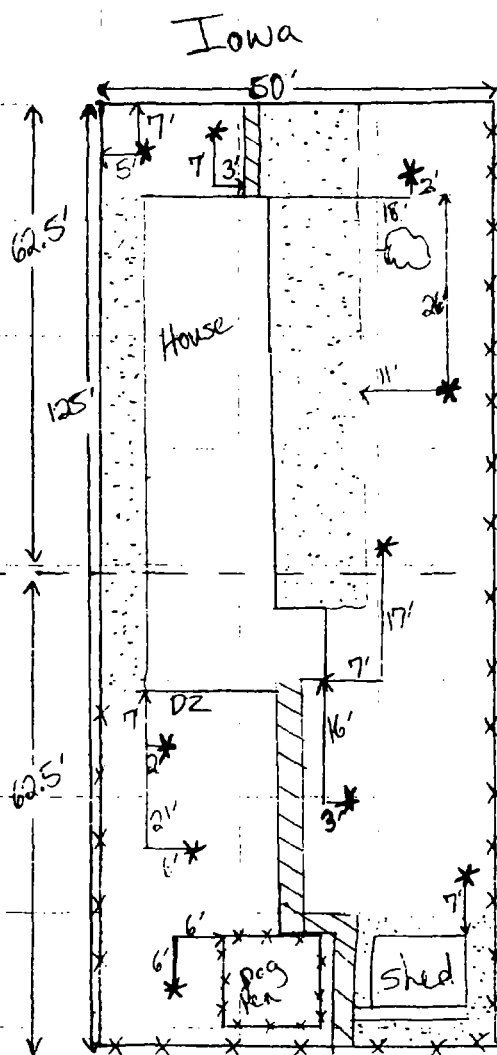
Address: 1014 Iowa  
Madison, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

ALCORN

Compass



- \* Sample Locations
- \*\* Fence
- ~ Gravel
- <img alt='tree symbol' data-bbox='195 815 225 845' Tree
- // Concrete



Date: 05-28-03

Property Owner: Barbara Glaze

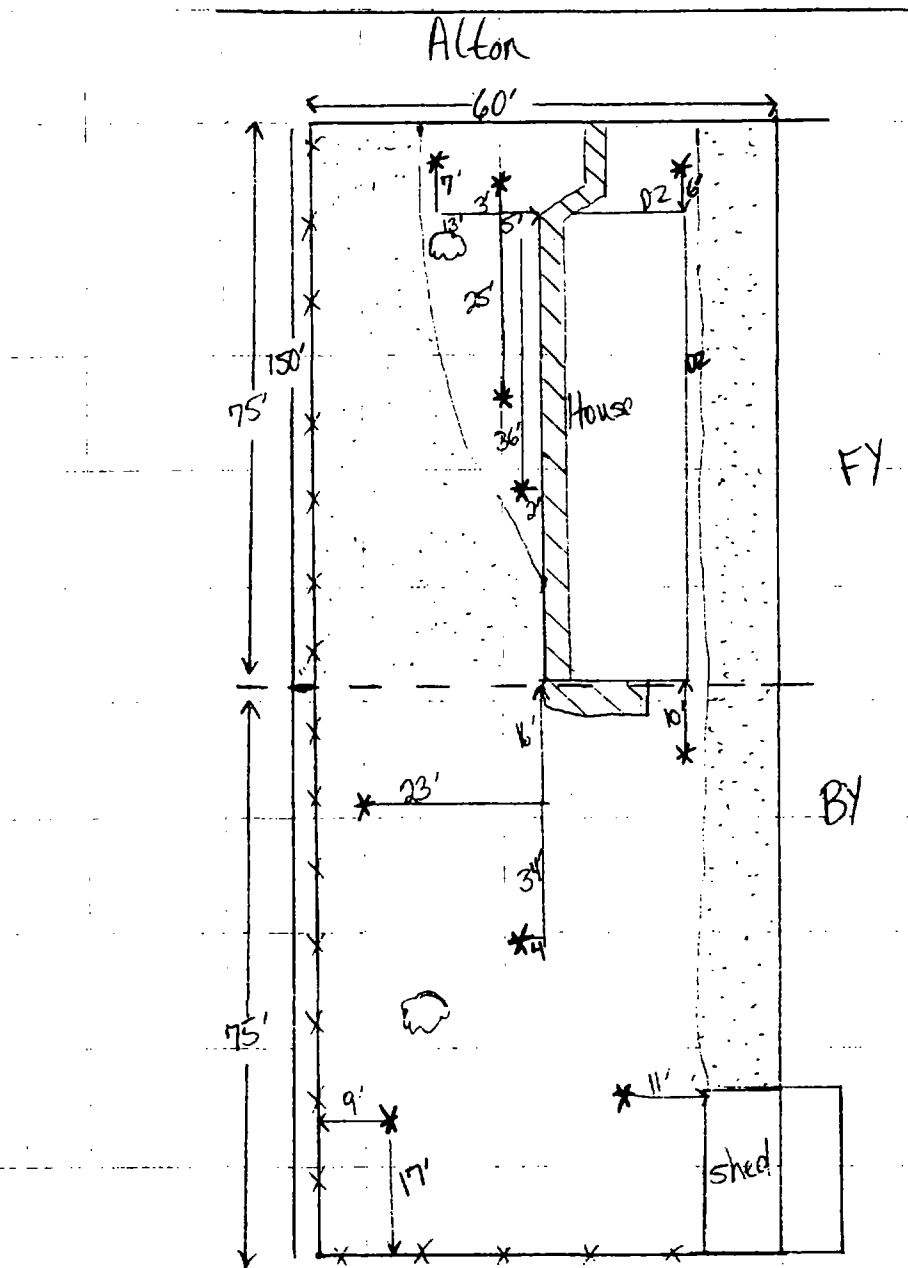
Address: 918 Alton  
Madison, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ALCORN

Compass

→ N



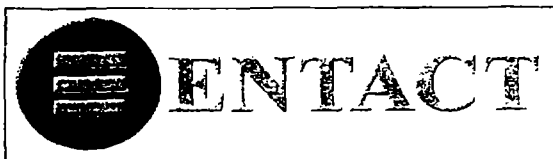
xx Fence

\* Sample Locations

☁ Tree

/// Concrete





Date: 05/29/03

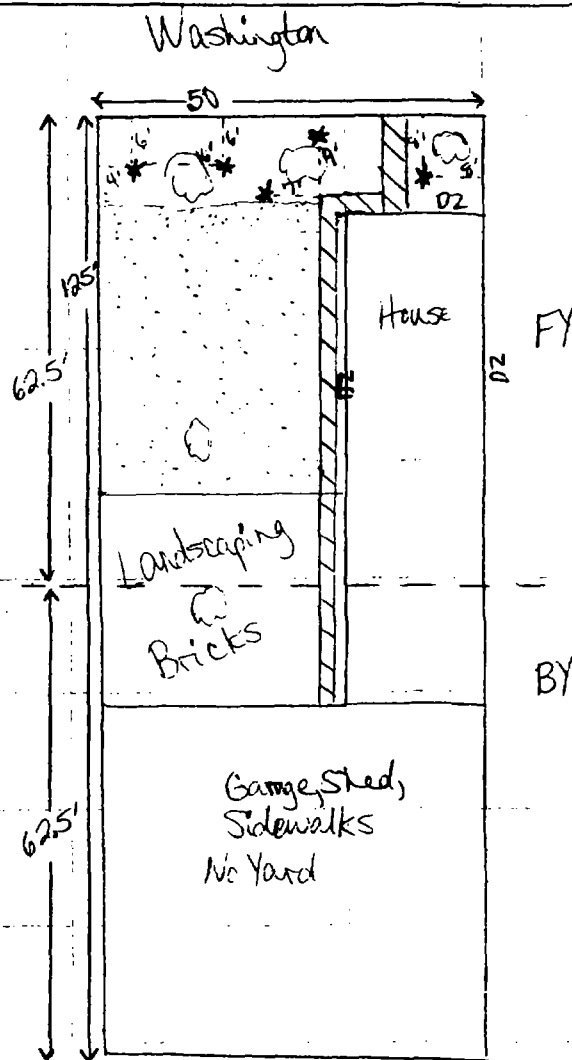
Property Owner: Revak

Address: 1416 Washington  
Madison, Illinois

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ALCORN

Compass



\* Sample Locations

○ Trees

⋯ Gravel

/// Concrete



Date: 05/29/03

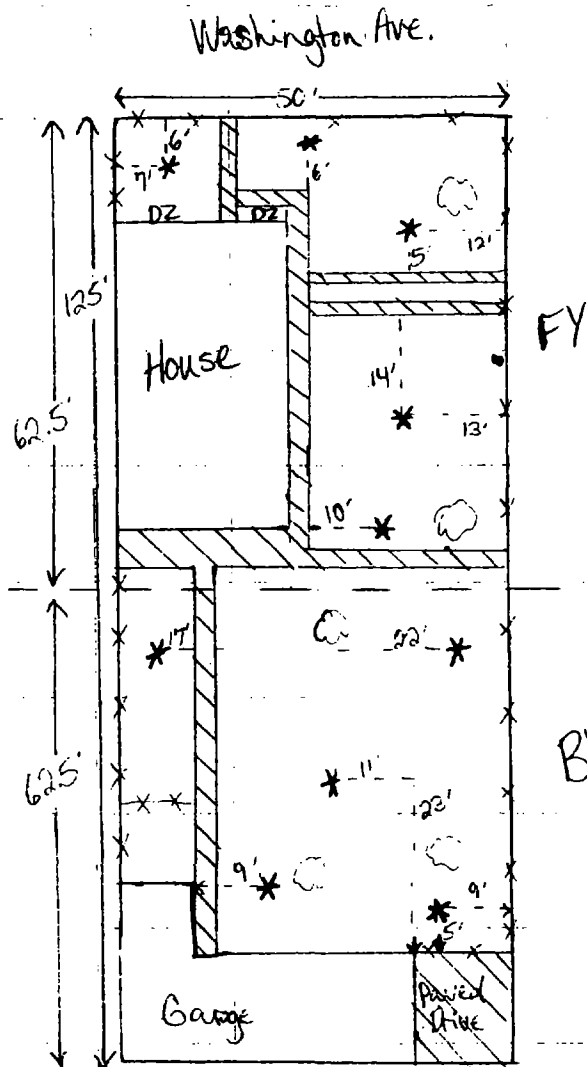
Property Owner: Krawiecki

Address: 703 Washington Avenue  
Madison, Illinois

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: ALCORN

Compass



\* Sample Locations

xx Fence

/// Concrete

○ Tree



Date: 05/29/03  
Property Owner: Foley  
Address: 1316 Iowa  
Madison, Illinois

Madison, Illinois

Log Person: Alcorn



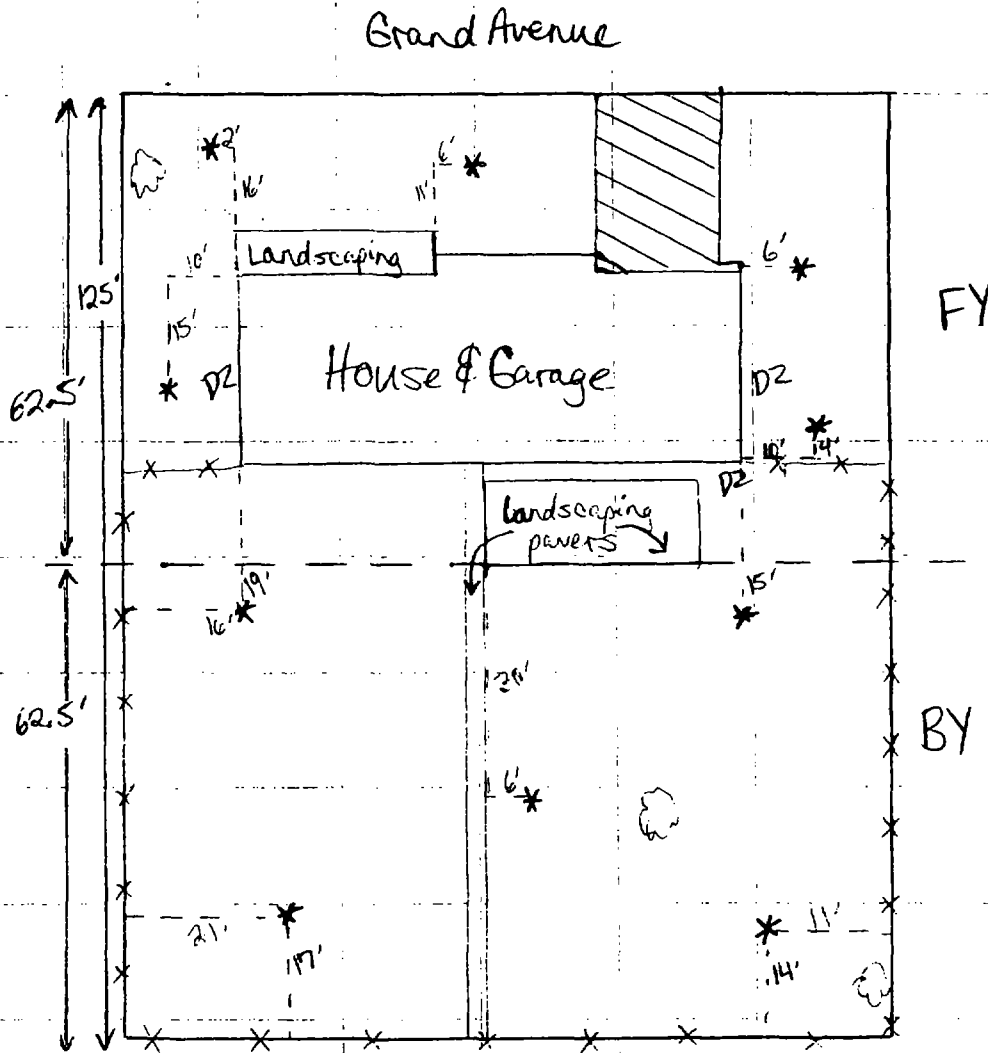
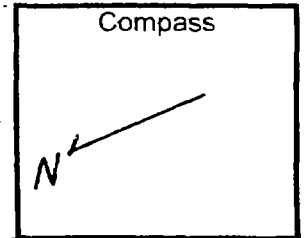
- \* Sample Locations  
 // Concrete  
 \*\* Fence  
 . gravel  
 ( ) Tree



Date: 05-29-03  
Property Owner: Patricia Williams  
Address: 901 Grand Ave.  
Madison, Illinois

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: Alcorn



- \* Sample Locations
- xx Fence
- Tree
- /// Concrete

- \* Sample Locations  
 \*\* Fence  
 O Tree  
 // Concrete



Date: 05-29-03

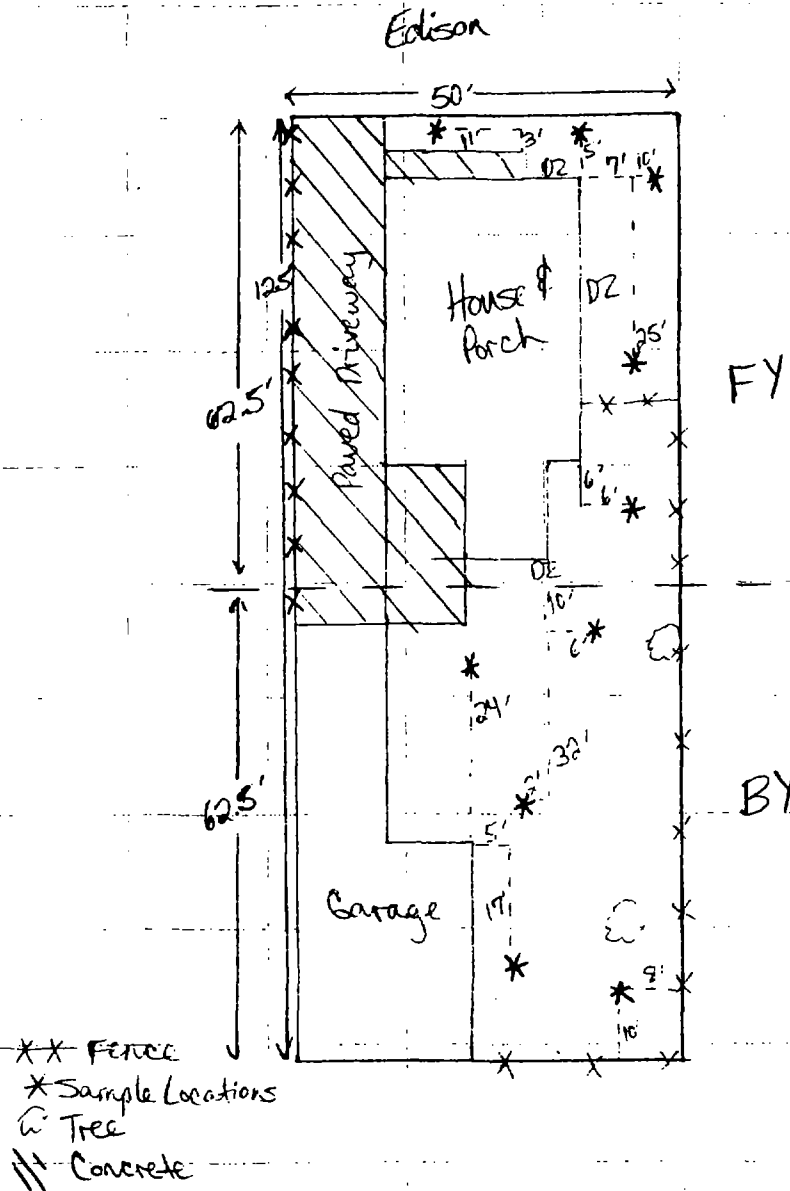
Property Owner: Burgener

Address: 2153 Edison  
Granite City, Illinois

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: Alcorn

Compass





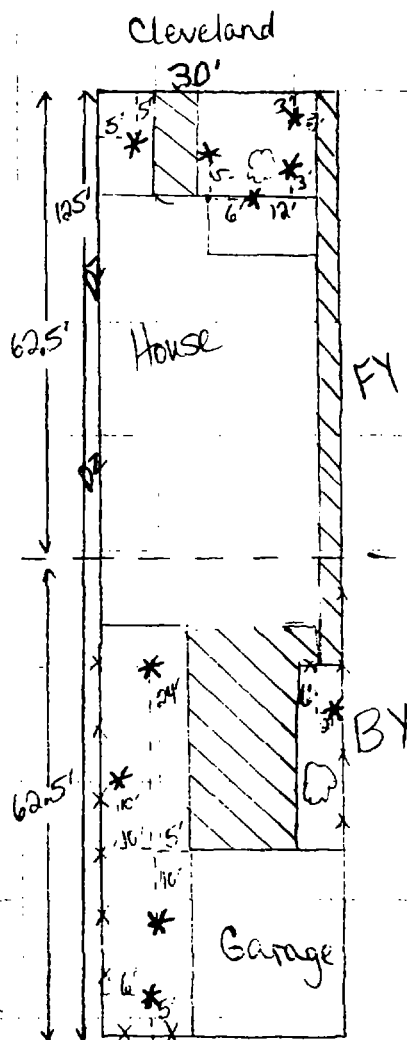
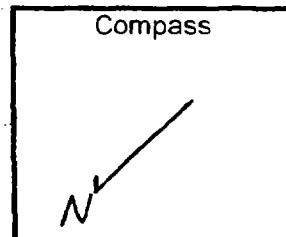
Date: 05-29-03

Property Owner: Kemp

Address: 2323 Cleveland Blvd.  
Granite City, Illinois

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: Alcorn

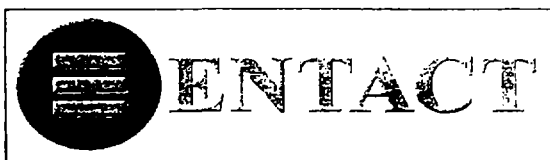


\* Sample Locations

/// Concrete

XX Fence

⊗ Tree



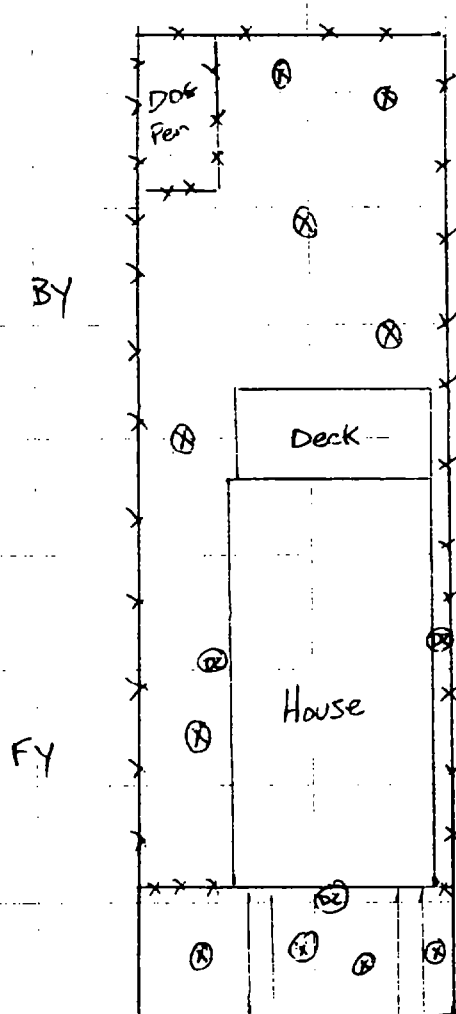
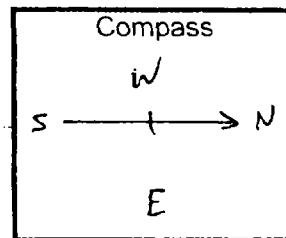
Date: 5-30-2003

Property Owner: Shella Rivers

Address: 619-621 Meredocia  
Venice, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

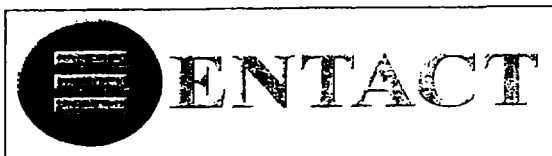
Log Person: McCord



- ⊗ = Sample Location
- ⊗ = Drip Zone Sample
- x = fence

Meredocia





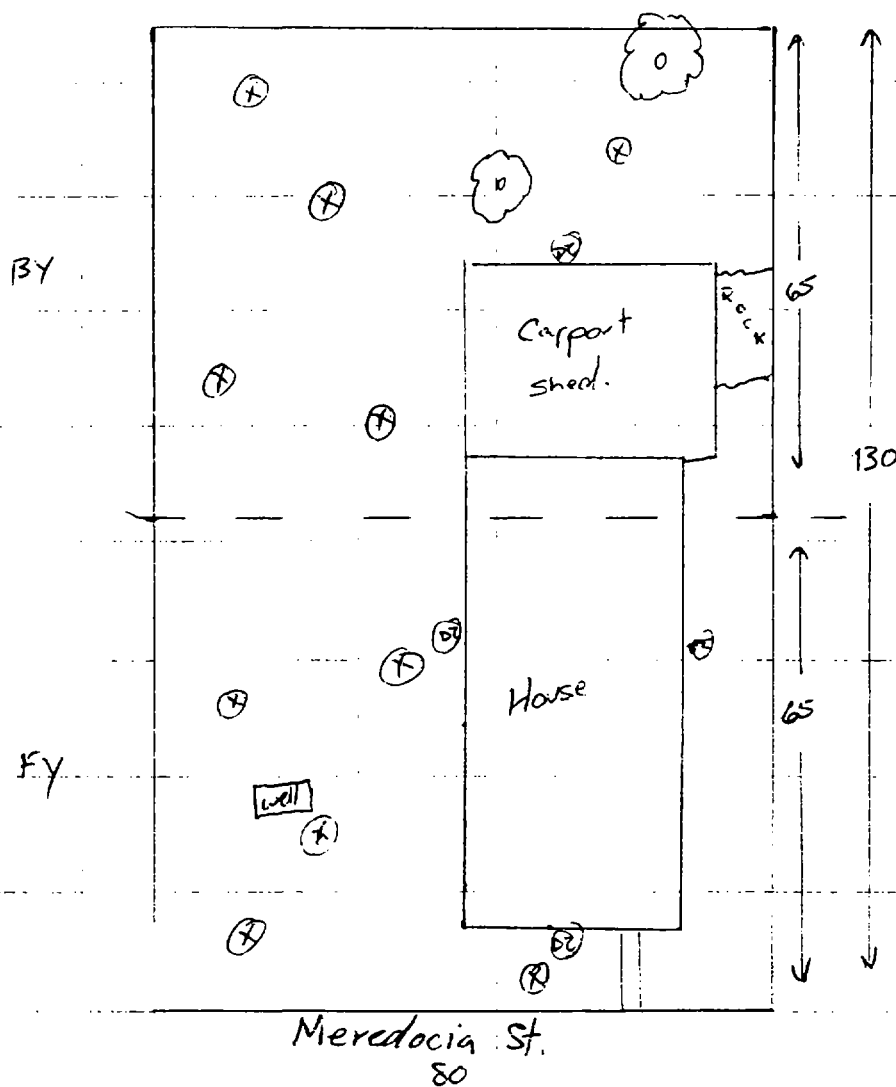
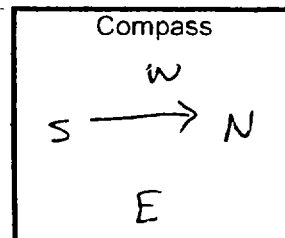
Date: 05-30-03

Property Owner: Amanda Watts

Address: 547 Meredocia  
Venice IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord/Hummel

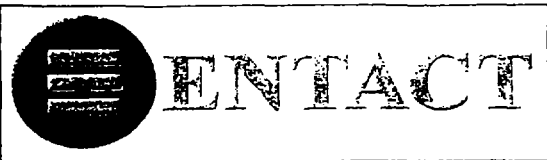


⊗ = sample location

⊗ = Drip Zone Sample

well = well

○ = tree



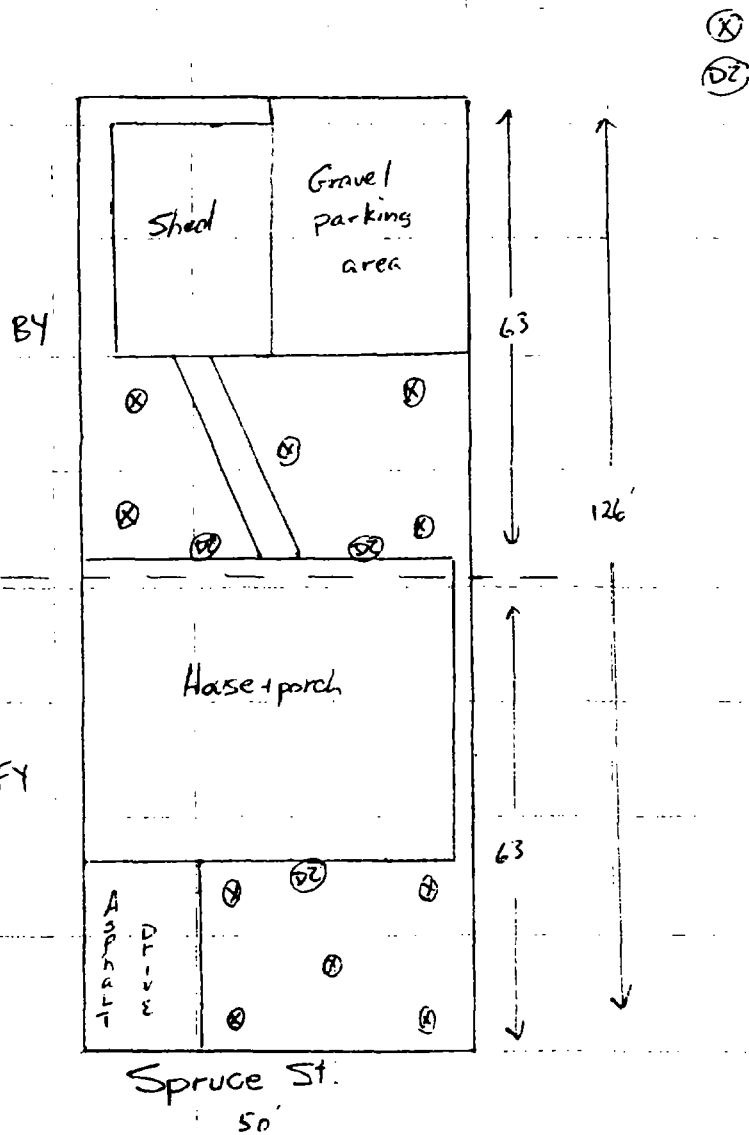
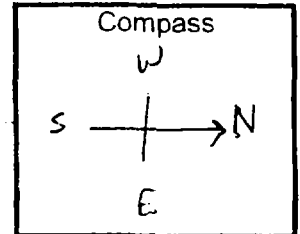
Date: 5-30-03





Property Owner: Clarence Hartline

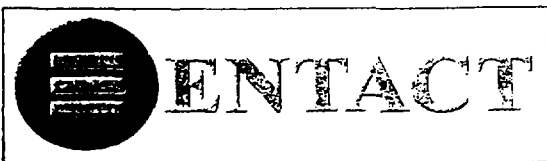
Address: 1827 Spruce  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord/Hummel



-  = Sample Collection  
 = Drip Zone Sa-  
 = tree  
 = fence



Date: 5-30-03

Property Owner:

Marilyn Manton

Address:

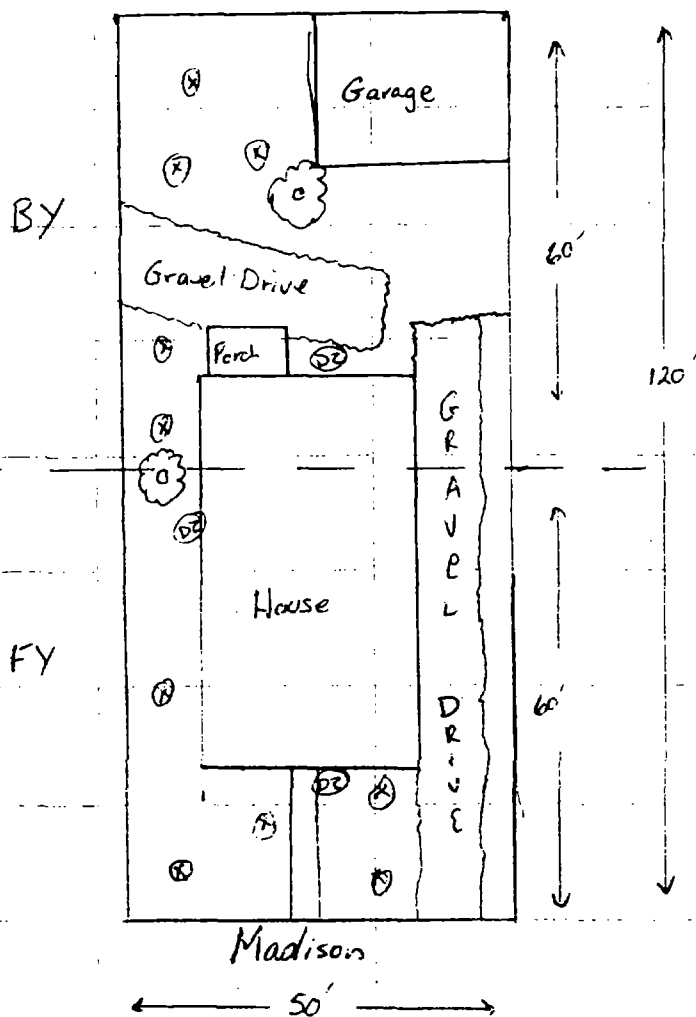
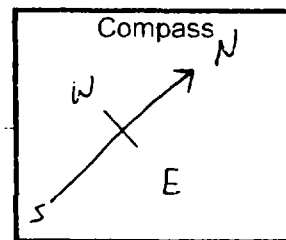
1821 Madison

Grange City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person:

McCord



(X) = Sample Location

(DZ) = Drip Zone sample

(O) = Tree



ENTACT

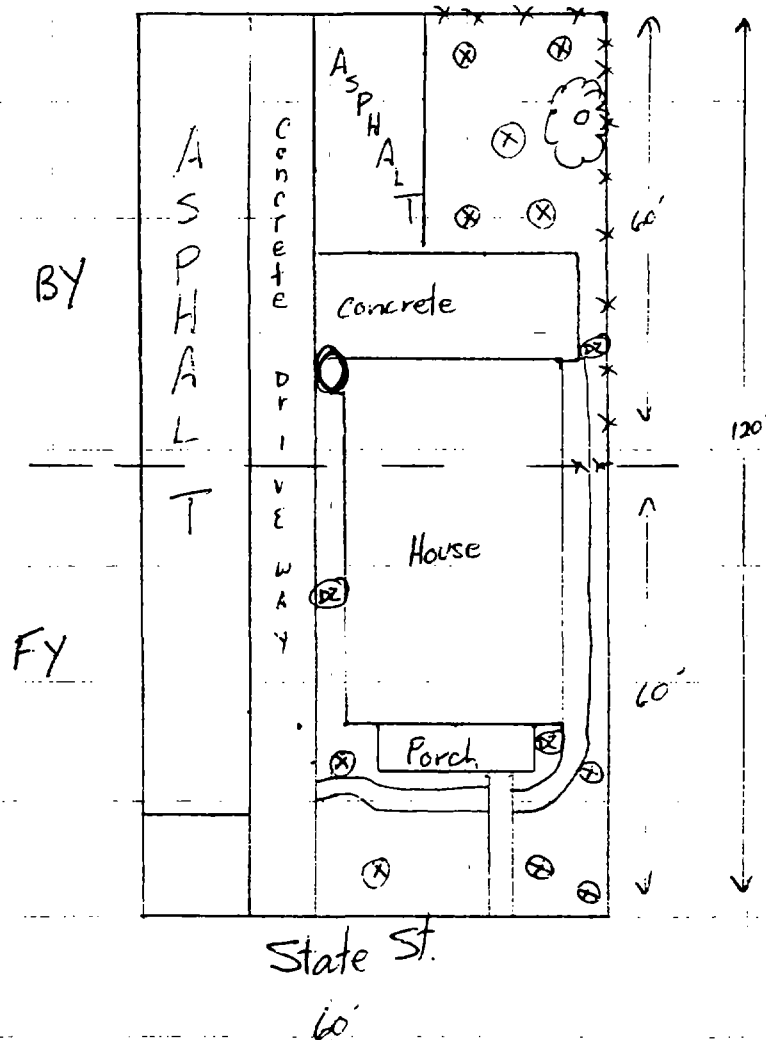
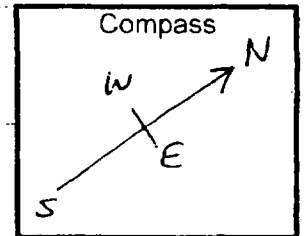
Date: 5-30-03

Property Owner: OKer

Address: 2039 State  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

Log Person: McCord



⊗ = Sample Location

⊙ = Drip Zone

⊙ = tree

⊙ = spiral staircase

\* = fence



Date: 6/24/2003

Property Owner: Val Derosselli

Address: 1429 Madison  
Granite City, IL

Project ID: C819-NL Industries/Taracorp Superfund Site

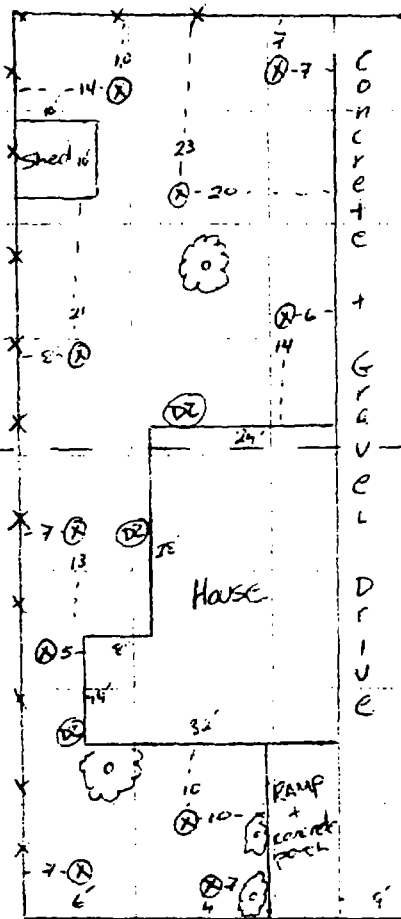
Log Person: McCord

Compass

→ N

BY

FY



⊗ = sample location

DL = Drip Zone sample

○ = tree/bush

X = fence

50'  
1429 Madison St.



Date: 6/24/2003

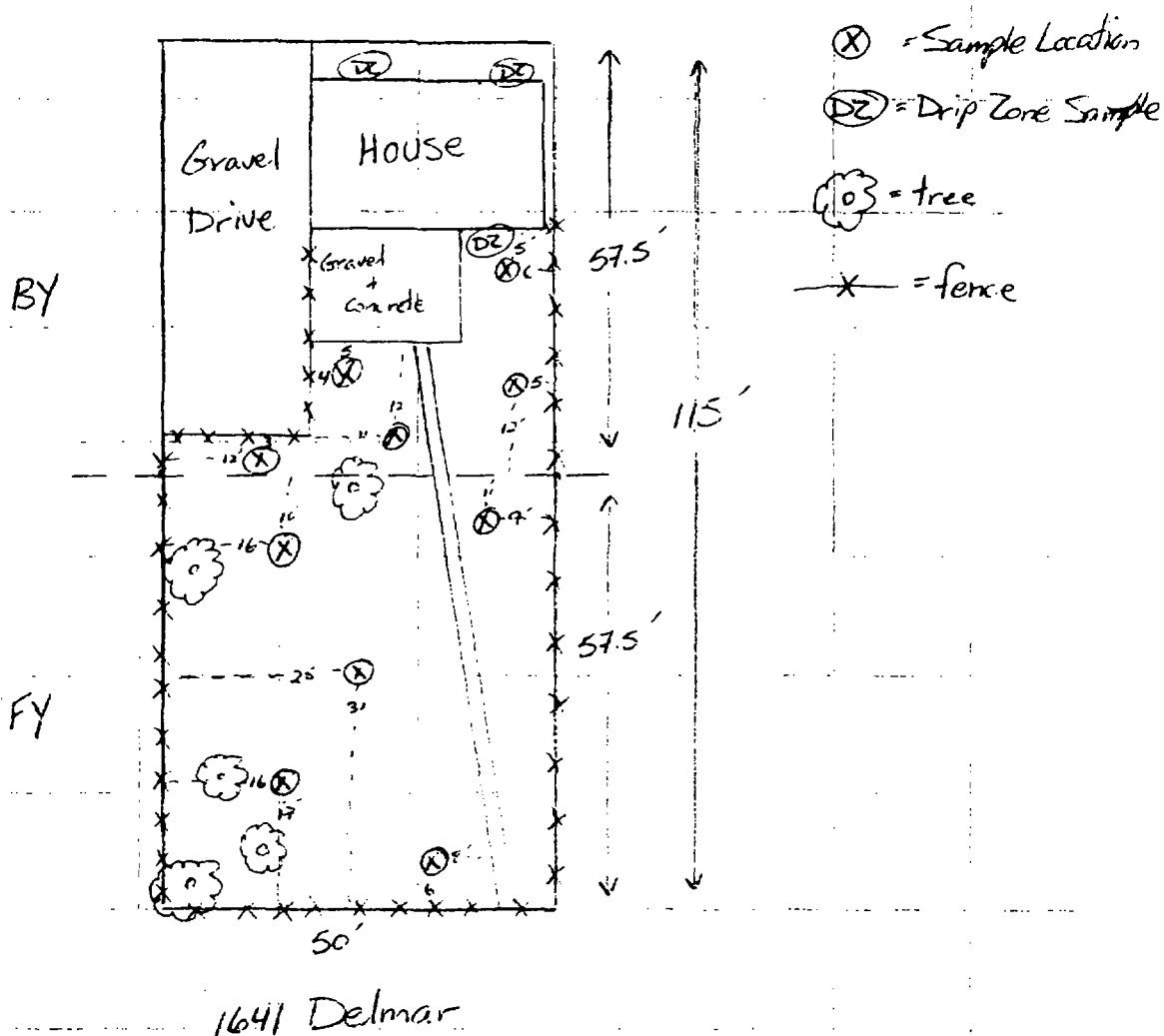
Property Owner: Coats

Address: 1641 Delmar  
Granite City, IL

Project ID: 2819-NL Industries/Taracorp Superfund Site

Log Person: McCord

Compass





Date: 6-24-2003

Property Owner: Ramona Esparza

Address: 1732 Chestnut

Granite City IL

Project ID: 0819-NL Industries/Taracorp Superfund Site

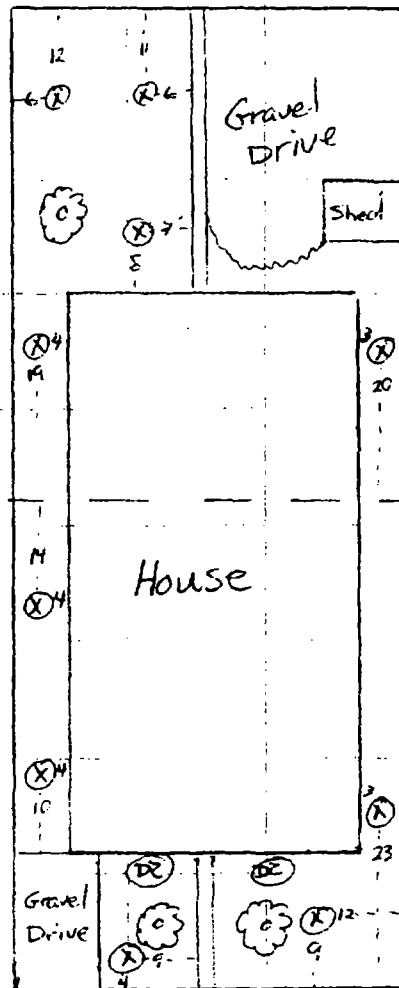
Log Person: McCord

Compass

N

BY

FY



- ⊗ = Sample Location
- ⊗2 = Drip Zone Sample
- ⊗ = Tree

1732 Chestnut





Date: 6-24-2003

Property Owner: Ralph Clutts Jr.

Address: 1443 Grand  
Granite City IL

Project ID: C819-NL Industries/Taracorp Superfund Site

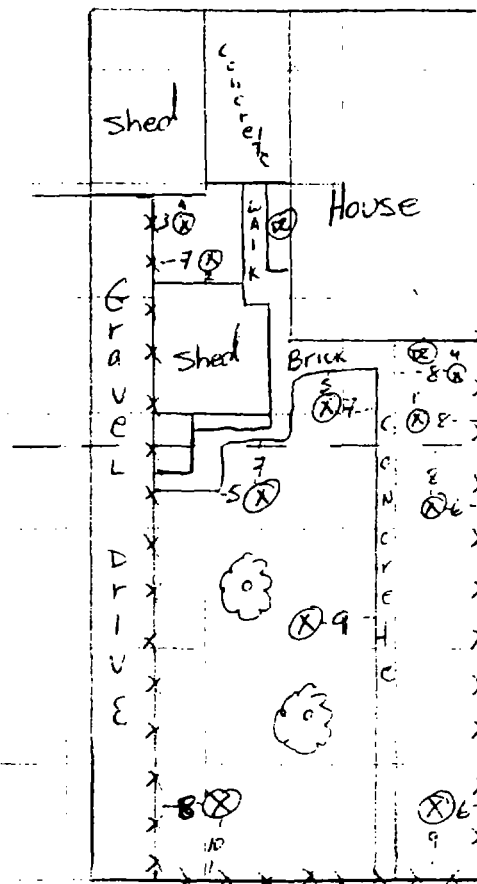
Log Person: McCord

Compass



BY

FY



⊗ = Sample Location

⊗ = Drip Zone Site

⊗ = tree

⊗ = fence

50'  
1443 Grand



ENTACT

Appendix

D



**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC # 18507

PROJECT #

PO # \_\_\_\_\_

PAGE \_\_\_\_\_ OF 5

**INSTRUCTIONS:** \_\_\_\_\_

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]

1852

INSTRUCTIONS: \_\_\_\_\_

PAGE 1 OF 3

## ANALYSES REQUEST

[illegible]

11401 Moog Drive  
St. Louis, MO 63146-3560  
(314) 432-0550

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC # 18508

COMPANY \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ DATE \_\_\_\_\_

CITY/STATE/ZIP LA 70119 FAX ( ) 00

PHONE ( ) 1-10 E-MAIL 1-10

**Turnaround Time:** ☒ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)

☐ 1-2 Business Days      ☐ Same Day      Due Date \_\_\_\_\_

**Delivery Mode:** ☒ Fax ☒ E-Mail ☐ Phone Call

INSTRUCTIONS: \_\_\_\_\_

PROJECT # 1

PO # \_\_\_\_\_

PAGE 7 OF 9

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]

**CUSTODY / TRANSFER RECORD / LABORATORY WORK / REQUEST**

CONTACT *Caroline Banks*

DATE \_\_\_\_\_

FAX (430) 616-7203

E-MAIL Cpanico@contact.com

☐ Rush (5 business days)      ☐ Fastrak (3 business days)

Due Date \_\_\_\_\_

☐ Phone Call

**INSTRUCTIONS:** \_\_\_\_\_

PROJECT # 101

PO # \_\_\_\_\_

PAGE 1 OF 3

## ANALYSES REQUEST

[illegible][illegible]

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC # 18515

COMPANY _____	CONTACT _____
ADDRESS _____	DATE <u>5/29/03</u>
CITY/STATE/ZIP _____	FAX (     ) _____
PHONE (     ) _____	E-MAIL _____
Turnaround Time: <input type="checkbox"/> Normal (8-10 business days)	<input type="checkbox"/> Rush (5 business days) <input type="checkbox"/> Fastrak (3 business days)
<input type="checkbox"/> 1-2 Business Days <input type="checkbox"/> Same Day	Due Date _____
Delivery Mode: <input type="checkbox"/> Fax <input type="checkbox"/> E-Mail	<input type="checkbox"/> Phone Call

PROJECT # 100

PO 4

PAGE

OF

**INSTRUCTIONS:**

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]



**CUSTODY / TRANSFER RECORD / LABORATORY WORK REQUEST**

COC #

18513

## CONTACT

DATE 5/29/03

FAX ( )

**E-MAIL**

☐ Rush (5 business days)☐ Fastrak (3 business days)☐ Same Day

Due Date \_\_\_\_\_

☐ Fax

 **E-Mail**

☐ Phone Call

**INSTRUCTIONS:**

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC # 18516

COMPANY \_\_\_\_\_ CONTACT \_\_\_\_\_  
ADDRESS \_\_\_\_\_ DATE 5/29/03  
CITY/STATE/ZIP \_\_\_\_\_ FAX ( ) \_\_\_\_\_  
PHONE ( ) \_\_\_\_\_ E-MAIL \_\_\_\_\_

PROJECT # 001

**Turnaround Time:** ☒ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)

PO #

☐ 1-2 Business Days ☐ Same Day

Due Date \_\_\_\_\_

Delivery Mode: ☐ Fax ☒ E-Mail ☐ Phone Call

PAGE

01

INSTRUCTIONS: \_\_\_\_\_

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]

11401 Moog Drive  
St. Louis, MO 63146-3560  
(314) 432-0550

# CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST

COMPANY \_\_\_\_\_ CONTACT \_\_\_\_\_  
ADDRESS \_\_\_\_\_ DATE 5/29/03  
CITY/STATE/ZIP \_\_\_\_\_ FAX ( ) \_\_\_\_\_  
PHONE ( ) \_\_\_\_\_ E-MAIL \_\_\_\_\_  
Turnaround Time: ☐ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)  
☐ 1-2 Business Days ☐ Same Day Due Date \_\_\_\_\_  
Delivery Mode: ☒ Fax ☒ E-Mail ☐ Phone Call

COC # 18517  
PROJECT # \_\_\_\_\_  
PO # \_\_\_\_\_  
PAGE \_\_\_\_\_ OF 5

INSTRUCTIONS: \_\_\_\_\_

SAMPLE IDENTIFICATION						ANALYSES REQUEST															
ITEM	SITE CODE / SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	PRESERV.	CONTAINER																
1						X															
2						X															
3						X															
4																					
5																					
6						X															
7						X															
8						X															
9																					
10																					
11																					
12																					
13																					
14																					
15																					

ITEMS TRANSFERRED	RELINQUISHED BY	Date	Time	RECEIVED BY	Date	Time	REASON for TRANSFER	SPECIAL NOTES / INSTRUCTIONS

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC #

48518

COMPANY \_\_\_\_\_

**CONTACT** \_\_\_\_\_

ADDRESS \_\_\_\_\_

DATE 5/29/23

CITY/STATE/ZIP \_\_\_\_\_

FAX ( ) \_\_\_\_\_

PHONE (       ) \_\_\_\_\_

E-MAIL \_\_\_\_\_

Turnaround Time: ☒ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)

☐ 1-2 Business Days      ☐ Same Day      Due Date \_\_\_\_\_

**Delivery Mode:** ☐ Fax ☒ E-Mail ☐ Phone Call

INSTRUCTIONS: \_\_\_\_\_

PROJECT # 001

PO # \_\_\_\_\_

PAGE 1 OF 1

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]

11401 Moog Drive  
St. Louis, MO 63146-3560  
(314) 432-0550

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC # 18519

COMPANY: \_\_\_\_\_ CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ DATE: 06-11-03

CITY/STATE/ZIP: \_\_\_\_\_ FAX ( ) \_\_\_\_\_

PHONE ( ) \_\_\_\_\_ E-MAIL: \_\_\_\_\_

Turnaround Time: ☐ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)

☐ 1-2 Business Days ☐ Same Day Due Date: \_\_\_\_\_

Delivery Mode: ☐ Fax ☐ E-Mail ☐ Phone Call

INSTRUCTIONS: \_\_\_\_\_

PROJECT # \_\_\_\_\_

PO # \_\_\_\_\_

PAGE \_\_\_\_\_ OF 3

SAMPLE IDENTIFICATION						ANALYSES REQUEST															
ITEM	SITE CODE / SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	PRESERV.	CONTAINER																
1			5			X															
2						X															
3						X															
4						X															
5						X															
6						X															
7						X															
8						X															
9						X															
10						X															
11						X															
12	BY		27			X															
13	RP-1633					X															
14	FG-012					X															
15						X															

ITEMS TRANSFERRED	RELINQUISHED BY	Date	Time	RECEIVED BY	Date	Time	REASON for TRANSFER	SPECIAL NOTES / INSTRUCTIONS
	<u>Heath</u>	<u>6-13</u>	<u>10</u>	<u>Heath</u>	<u>7</u>	<u>10</u>		

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC #

18520

COMPANY \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ DATE 10/2/73

CITY/STATE/ZIP \_\_\_\_\_ FAX ( ) \_\_\_\_\_

PHONE ( ) \_\_\_\_\_ E-MAIL \_\_\_\_\_

**Turnaround Time:** ☐ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)

☐ 1-2 Business Days      ☐ Same Day      Due Date \_\_\_\_\_

**Delivery Mode:** ☐ Fax ☐ E-Mail ☐ Phone Call

**INSTRUCTIONS:** \_\_\_\_\_

PROJECT # \_\_\_\_\_

PO # \_\_\_\_\_

PAGE \_\_\_\_\_ OF \_\_\_\_\_

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

[illegible][illegible]

11401 Moog Drive  
St. Louis, MO 63146-3560  
(314) 432-0550

# CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST

COMPANY Environmental Sciences  
ADDRESS 1300 N. Main St. St. Louis  
CITY/STATE/ZIP St. Louis, MO 63101  
PHONE (630) 616-2100

CONTACT Carolyn R. Riney  
DATE 5/15/03  
FAX (630) 616-2103  
E-MAIL carolyn@es-intel.com

Turnaround Time: ☒ Normal (8-10 business days) ☐ Rush (5 business days) ☐ Fastrak (3 business days)

☐ 1-2 Business Days ☐ Same Day Due Date \_\_\_\_\_

Delivery Mode: ☒ Fax ☒ E-Mail ☐ Phone Call

INSTRUCTIONS: \_\_\_\_\_

COC # 18521  
PROJECT # 219  
PO # \_\_\_\_\_  
PAGE 3 OF 3

SAMPLE IDENTIFICATION						ANALYSES REQUEST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
ITEM	SITE CODE / SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	PRESERV.	CONTAINER	As	Ag	Al	Am	Ar	Ba	Be	Bk	Bi	Br	Bu	Ca	Ce	Cl	Cm	Cu	Dy	Fe	Fr	Ga	Ge	Gr	He	Hf	Hg	Ho	I	In	Ir	K	La	Li	Mg	Mn	Mo	Nb	Ni	P	Pb	Pr	Rb	S	Sb	Se	Si	Sm	Sr	Ta	Tb	Tl	Tm	U	V	W	Xe	Y	Yb	Zn	Zr																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1	RP-1748 Poplar - DZ	05-30-03	0958	N/A	4oz jar	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

ITEMS TRANSFERRED	RELINQUISHED BY	Date	Time	RECEIVED BY	Date	Time	REASON for TRANSFER	SPECIAL NOTES / INSTRUCTIONS
	<u>Carolyn R. Riney</u>	<u>5/15/03</u>	<u>11:52</u>	<u>[Signature]</u>	<u>5/15/03</u>	<u>11:52</u>		

**CUSTODY TRANSFER RECORD / LABORATORY WORK REQUEST**

COC # 18523

COMPANY Entact + Associates CONTACT Caroline Panico

ADDRESS 1360 N. Wood Lake Rd Ste A DATE 6-24-2003

CITY/STATE/ZIP Wood Dale IL 60191 FAX (630) 616-9203

PHONE (630) 616-2100 E-MAIL [Cpanico@einfact.com](mailto:Cpanico@einfact.com)

Turnaround Time: ☐ Normal (8-10 business days) ☒ Rush (5 business days) ☐ Fastrak (3 business days)

☐ 1-2 Business Days      ☐ Same Day      Due Date \_\_\_\_\_

**Delivery Mode:** ☒ Fax ☒ E-Mail ☐ Phone Call

INSTRUCTIONS: \_\_\_\_\_

PROJECT # C819

PO # \_\_\_\_\_

PAGE \_\_\_\_\_ OF \_\_\_\_\_

## SAMPLE IDENTIFICATION

## ANALYSES REQUEST

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ENTACT

Appendix

E



ENTACT

Appendix

E

**NL Industries/Taracorp Superfund Site  
O & M Inspection Log**

Inspector's Name: Jeff McCord, David Hinton

Date of Inspection: Tuesday, June 24, 2003

Site Structure	Inspected (Yes/No)	Inspection Observations	Maintenance Work Required or Performed
<b>Security Fence:</b>			
• Gates/locks secure and operative	Y	State Street Gate was open. Chain & Lock missing West gate locked and in good condition.	Needs new chain & Lock
• Evidence of rust, cuts, deterioration	Y	None	
• Evidence of unauthorized entry	Y	Yes. Cut fence in 4 areas on East side near burned building. Fence down and 3 posts bent/broken on North. 1 Fence post broken on West. 20' section down on SE Corner.	Recommend Fence repair ASAP.
• Burrowing or tunneling under fence	Y	None	
• Damaged barbed wire	Y	Top wire of 3 down at SW corner	Recommend Fence repair ASAP
• Comments		Anticipated Fire Dept emergency access through gate. Both buildings are destroyed and should be cleared from property. Large building is 95% burned.	Strongly recommend demo & disposal Removal of storage building remnants will limit interest in site and eliminate future fence/gate damage.
<b>Access Road:</b>			
• Evidence of settlement or deterioration	Y	None	
• Comments		Ruts from State Street Gate to Large building	
<b>Landfill Cover – Vegetation</b>			
• Establishment of grass from initial seeding	Y	100% covered with grass	
• Adequate growth of vegetation	Y	Green/yellow cover. Vegetation approx 24" high	
• Evidence of stress	Y	None.	
• Presence of trees/shrubs	Y	Few smaller trees.	
• Need for mowing/maintenance	Y	Will need one mowing late summer/early fall	
• Comments			
<b>Landfill Cover – Erosion</b>			
• Evidence of erosion	Y	Yes.	
• Indicate areal extent and location		6 locations on West side slope from top to concrete channel. 3 narrow & shallow areas on North and SE corner.	Recommend maintenance on West side to prevent further erosion.
• Comments			

Site Structure	Inspected (Yes/No)	Inspection Observations	Maintenance Work Required or Performed
<b>Landfill Cover – Settlement</b>			
• Evidence of settlement	Y	None.	
• Indicate areal extent and location	N/A		
• Comments			
<b>Landfill Cover – Cracks</b>			
• Evidence of cracks	Y	Erosion listed above. Cracks vary from 8" to 20" wide and vary from 6" to 36" deep.	
• Indicate areal extent and location		Deepest crack are on West side from top of slope down to concrete channel.	Recommend maintenance soon to prevent further erosion.
• Comments			
<b>Landfill Cover – Bulges</b>			
• Evidence of bulges	Y	None.	
• Indicate areal extent and location	N/A		
• Comments			
<b>Landfill Cover – Ponding</b>			
• Evidence of ponding	Y	None.	
• Indicate areal extent and location	N/A		
• Comments			
<b>Landfill Cover – Seeps</b>			
• Evidence of seepage (leachate)	Y	None.	
• Indicate areal extent and location	N/A		
• Comments			
<b>Landfill Cover – Slope Stability</b>			
• Evidence of sliding	Y	None.	
• Indicate areal extent and location	N/A		
• Comments			
<b>Leachate Management System</b>			
• Riser pipe and locks	Y	Riser pipe and cap in good condition. No lock	Recommend installing pad lock on cap.
• Leachate levels in sump	N		
• Necessary sampling activities	N		

Site Structure	Inspected (Yes/No)	Inspection Observations	Maintenance Work Required or Performed
• Necessary leachate disposal	N		
• Comments			
<b>Concrete Drainage Channel</b>			
• Evidence of cracks or obstructions	Y	No visible cracks. Minimal obstructions from erosion/run-off sediment. (see photos)	Recommend sweeping/pressure washing of concrete channel
• Areas of erosion	Y	None.	
• Comments			
<b>Asphalt Covers - Integrity</b>			
• Evidence of broken asphalt or fissures	Y	None.	
• Indicate areal extent and location	N/A		
• Comments			